The Mining Journal

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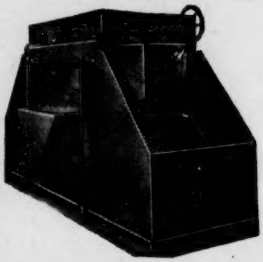

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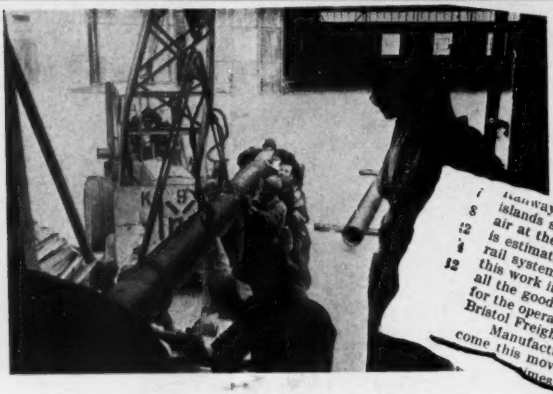

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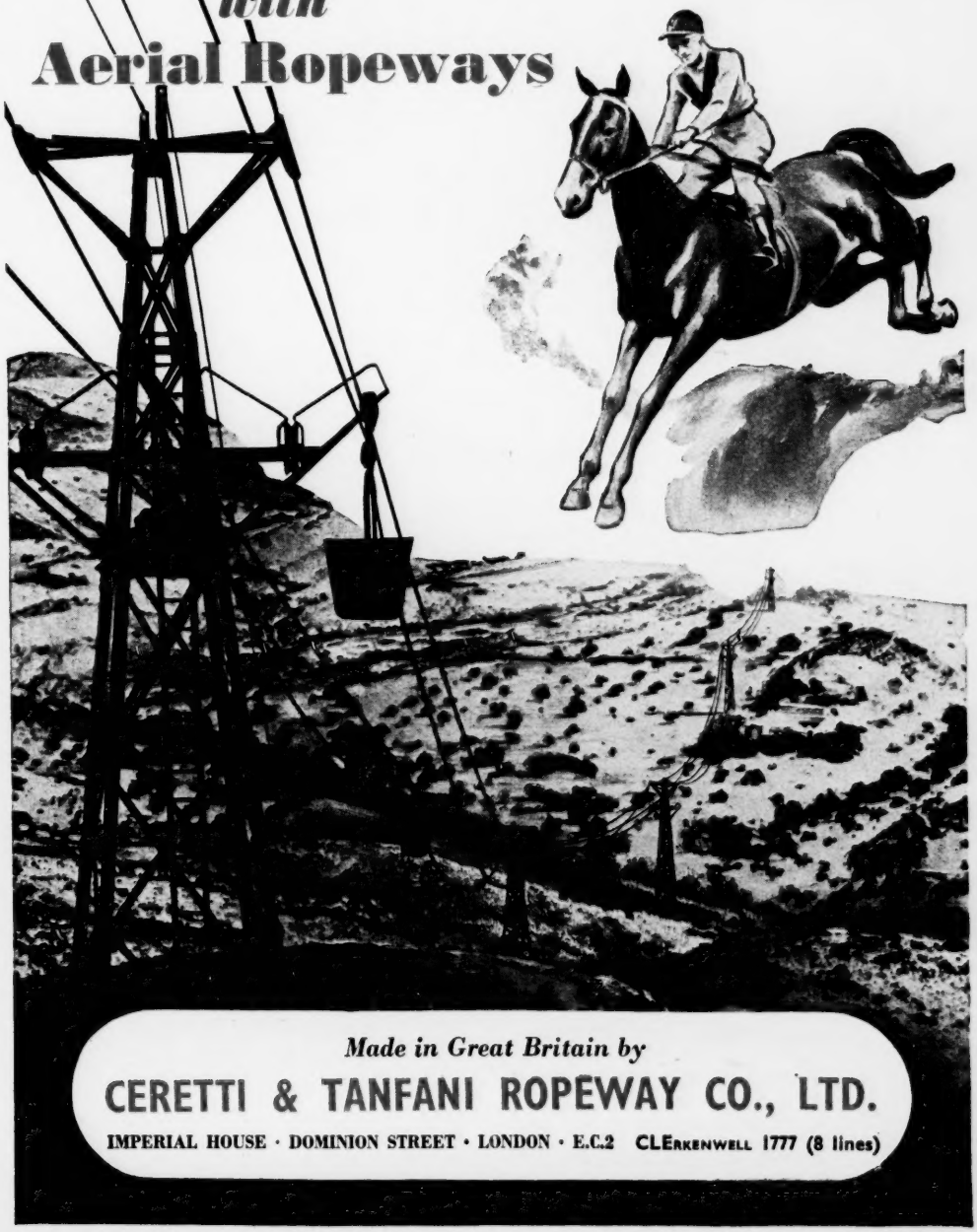

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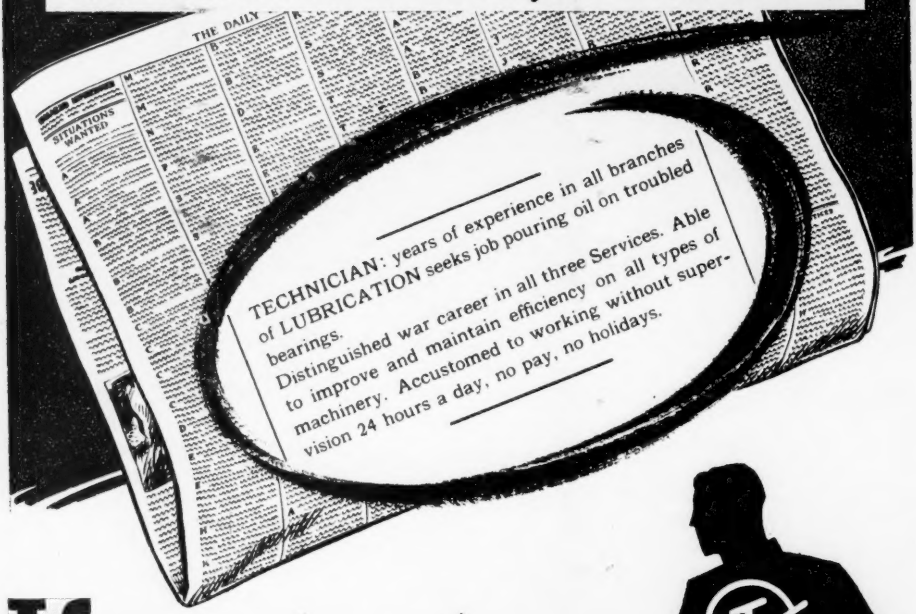
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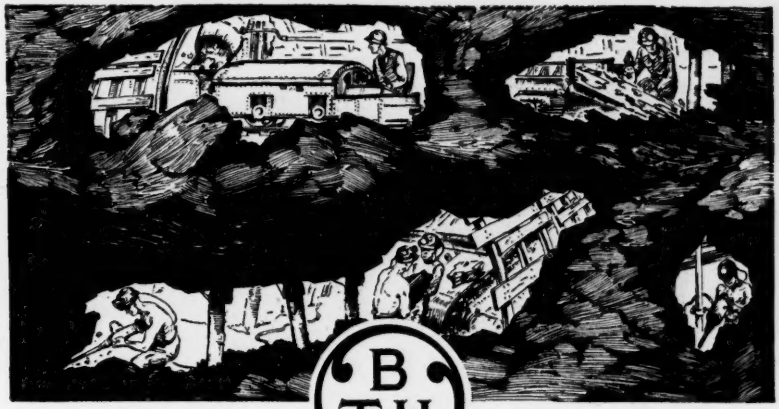

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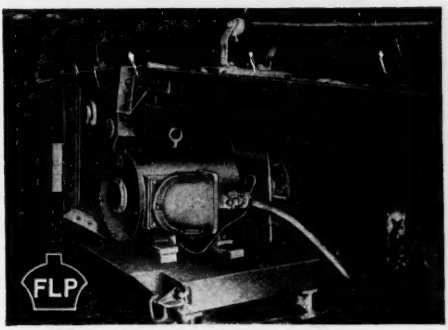

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THIS WEEK'S FEATURES

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CENTENARY OF AUSTRALIAN GOLD PRODUCTION - - Page 139

NOTES AND COMMENTS

Changes in the Steel Industry

It was curiously maladroit timing on the part of the British Iron & Steel Federation to issue on the eve of the August Bank Holiday Part I of their Statistical Year Book for 1950 which embodies full information concerning all aspects of the U.K. industry and Part II of the 1949 Year Book which contains similar information concerning the output, exports and imports of all overseas countries. No wonder that at such a time these twin publications have received scant notice in the popular Press. Nevertheless, they contain a wealth of detailed information which will well repay careful perusal by British citizens who now have a personal stake in a great national industry.

The politically-minded may be interested to learn that the U.S.S.R. has now usurped Germany's pre-war position as the leading producer of steel in Europe and Asia. Germany's maximum output of crude steel in 1930 totalled 20,150,000 tons. In 1949, the U.S.S.R. is credited with an output of 23,220,000 tons. This, however, was no more than one-third of the 69,620,000 tons produced in U.S.A., a figure which was far exceeded in 1950. Here is consolation for those who live in mortal fear of the growing strength of the Soviet Republic.

The expansion of British steel production, moreover, is no less spectacular than that of the Russian colossus. Our total supply, including imports, averaged no more than 8,370,000 tons in the 1921-25 quinquennium; last year it reached 17,430,000 tons.

The one disturbing feature of the recovery of the British steel industry is that the 1950 output of 16,293,000 tons required 10,250,000 tons of scrap, by far the biggest tonnage ever consumed in the melting shops. Such an immense tonnage is not likely to be forthcoming in the current year or in the near future and the industry is now busily engaged in building more and bigger blast furnaces to substitute pig-iron for scrap as the principal material for steel production.

Siamese Tin Syndicate to Investigate Scottish Lead-Zinc Deposits

The news that the Siamese Tin Syndicate and its associated undertaking, Bangrin Tin Dredging, will jointly take an option to purchase the mineral and certain other rights in the Leadhills-Wanlockhead area of South Lanarkshire and North Dumfriesshire, if exploratory work to be undertaken in this area, which extends to about 12 sq. miles, proves the existence of suitable grades of ore, marks the end, or at least the beginning of the end, of a long series of attempts to re-start the mining industry in this area.

In the issues of the *Mining Journal* dated September 22, 1950, February 23, 1951, and March 22 last, some account of the earlier efforts by the Dumfries and Galloway Development Association to have these mines reopened were described. The two mines are about two miles apart, but work the same series of veins. Leadhills, which had been worked as long ago as the thirteenth century, closed down about 20 years ago and Wanlockhead about five years later. When Leadhills shut down, the price of lead had dropped to £10 a ton, but since that time not only has the lead price risen to £180, but also the area has recently been served with electricity. Both these factors must considerably enhance the attractiveness of the scheme.

The report of the Westwood Committee dealing with the Leadhills and Wanlockhead area said that the ore reserves at Wanlockhead were equivalent to about 18,750 tons of 80 per cent lead concentrates, and about 12,500 tons of 45 per cent zinc concentrates, about one-half of each being reasonably certain and the remainder "probable." There was no evidence, however, of any ore reserves at Leadhills. In view of the estimated reserves at Wanlockhead, the opening up of this mine, in the short run, would seem to offer a reasonable short-term mining risk, but the Committee's view concerning its development from the long-term standpoint was that it would be dependent upon the outcome of a large-scale exploratory campaign to prove and block out new ore-bearing ground. The broad conclusion reached by the special Sub-Committee assessing the mineral resources of Scotland on behalf of the Westwood Committee was that "a determined exploratory campaign based initially on Wanlockhead and extending gradually so as to open up the area of ground between the two mines at lower levels would have a reasonable chance of proving the existence of substantial new lead-zinc resources."

Our Scottish correspondent writes that the Siamese Tin Syndicate and its associated company propose to conduct a preliminary geological campaign in order to establish the persistence and grade of the vein, and that if reports are encouraging this will be followed by drilling which may or may not ultimately lead to the development of the mines by shaft sinking and tunnelling.

Search for Strategic Minerals in the United States

Characteristic of the widespread search for mineable deposits of many strategic and critical minerals, which is getting under way with the aid of the U.S. Government exploration assistance programme, is the fact that, according to the Secretary of the Interior, the Defence Minerals Administration (D.M.A.) has signed contracts for 48 projects in 14 States as of June 30. Although the mineral exploration programme of the D.M.A. is less than three months old, contracts have already been entered into under it calling for a total expenditure of over $3,700,000 by private industry and the Government on search for additional reserves of key metals and non-metallic minerals.

The Government's share of about 58 per cent of the estimated cost of individual exploration ventures ranges from a low of $2,500 for a lead project in Arizona to a high of $231,710 for a lead-zinc project in Utah.

In helping to finance the search for metals and minerals needed to support the national defence programme, Dr. Boyd, the D.M.A. Administrator, said that the Government played a role akin to that played by townspeople who grubstaked prospectors in the early days, with two big differences. The grubstake usually expected—and got—a good share of the profits from successful ventures. Also he put up all the money, the prospector contributing only his time and effort. The Government expected directly no more than the actual amount it invested in successful exploration projects that developed into commercial mines, but would consider the funds wisely used if large additions were made to the nation's reserves of strategic and critical minerals, and that the prospector must put up a share of the cost assured that projects would not be undertaken unless they gave some promise of success.

Depending upon the mineral sought, the Government contribution ranges from 50 to 90 per cent of the exploration cost as follows: 50 per cent on chromium, copper, fluorspar, crucible grade graphite, iron ore, lead, molybdenum, sulphur and zinc (and cadmium); 75 per cent on antimony, manganese, mercury, and tungsten; and 90 per cent on spinning grade asbestos, beryl, cobalt, columbium-tantalum, corundum, cryolite, industrial diamonds, strategic kyanite, strategic mica, monazite and rare earth ores, nickel, platinum group metals, piezo-electric quartz crystals, steatite talc, tin and uranium.

To mention only a few of the approved projects, the Westmoreland Manganese Corporation is to search for manganese in the Batesville Mining District, Arkansas; the Black Rock Mining Corporation will seek tungsten in Mono County, California; thirteen projects have been approved in Colorado, chiefly for zinc-lead, and tungsten. In Texas, the National Lead Co. will engage in a sulphur project in Fort Bend County, and sulphur is also the objective of the Continental Sulphur & Phosphate Co., working in Park County, Wyoming.

Many of the applications for exploration assistance received by D.M.A. failed to meet the deadline date, or did not contain certain information indispensable for passing judgment upon a project. However, all applications which had not been approved or denied by the end of the fiscal year will, nevertheless, be given consideration and will be processed in accordance with the 31 day extension under the National Production Act, or with new legislation that may be enacted by Congress.

The strategic importance of the mineral involved is one of the factors considered by D.M.A. in passing an application for exploration assistance. Other factors include the geologic probability of making a significant discovery, the accessibility of the project and the availability of manpower, equipment, supplies, water and power, as well as the operating experience and background of the applicant.

If, at the end of the project, the Government considers that a commercially significant discovery has been made, it will so notify the operator within six months. This notification will describe specifically the block of ground included in the discovery. The operator then has to repay the Government without interest, through a percentage royalty on the net smelter returns or other net proceeds from any ore, concentrates or metal produced from the discovery within 10 years of the date of the contract, as follows: the net smelter returns or other net proceeds not in excess of $8.00 per ton of ore, 1½ per cent. Of the net returns in excess of $8.00 per ton of ore, 1½ per cent, plus ½ per cent additional for each full 50c. in excess of $8.00 per ton of ore, but not in excess of a maximum of 5 per cent.

Malaya

(From Our Own Correspondent)

Kuala Lumpur, July 28

The chief development of current interest was the speech of the President of the All-Malaya Chinese Mining Association, the Hon. Col. H. S. Lee, the most prominent figure in Chinese mining circles here. He is a member of the Federal Executive Council and of that of the Chamber of Mines and has represented the industry overseas on numerous occasions. After stating that he had just learnt that certain mines had already been forced to close down, Col. Lee criticized recent American policy with regard to tin, and suggested that if this were not changed, producers would be forced to take action to safeguard their interests. Mr. Symington's recent statement seemed to pick out the Singapore free tin market as the particular object of his hostility, which was understandable as, while the American Government, in its attempt to dominate the whole tin industry, could close the New York market, it was powerless with regard to the free market in Singapore, and he urged miners to resist strongly any attempt to muzzle Singapore.

The Federation's revenue from the export duty on tin in the first six months was $S.42,518,888, pretty nearly double the figure for the correspondent period last year and the revenue for the whole year should be in the region of $S.80,000,000, against the present estimate of $S.53,000,000. Col. Lee, in the course of his speech to the Chinese Mining Association, stressed the importance of reducing the present rate of duty in view of the fall in tin prices without any decrease in the cost of production.

So far, the cut in tin prices will not unduly disturb the dredging companies, though one or two on low-grade ground will feel the strain. Operating costs have risen from 20 per cent to 40 per cent. The Labour Department has been quick to insist on the increased pay and bonuses based on peak tin prices, but has not shown the same anxiety to reduce the scale of payment during the fall. The Chinese miner can protect himself, to some extent, by other business activities, rubber estates, shops, haulage contracts and the like, but opium as a possible sideline is now out of the question, with the strict control during the emergency, except perhaps in Perlis on the Siamese boundary.

While officials of both the Mines Department and the Geological Survey constantly seek to impress on the Government the handicap imposed by lack of exploration and prospecting, the Government officials in general seem vastly uninterested, preferring to devote themselves to irresponsible utterances over Radio Malaya, on nationalisation of rubber, increased duty and cess, etc.

South Africa

(From Our Own Correspondent)

Johannesburg, August 1

The June statistics of gold production issued by the Transvaal Chamber of Mines show clearly how rising costs are swallowing up the benefits of devaluation to the mining industry. Were it not for the continued extra revenue being received from premium sales of gold, quite a number of mines would once again be approaching the status of marginal producers.

The average working cost per ton milled for the first six months of this year was 31s. 3d. This is an increase of 2s. 3d. when compared with the figure for the first half of 1950. In terms of gold production itself it has risen from 154s. per f.oz. to 166s. 1d. The deterioration is even more marked when one compares it with the immediate post-devaluation period when costs averaged 26s. 8d. per ton or 134s. per f.oz.

DEVALUATION BENEFITS DWINDLING

So far as gross profits are concerned, based on the official gold price only, approximately 52 per cent of devaluation benefits have already been lost. So far as shareholders are concerned, the amount is even greater since the South African Government is taking a further slice in the way of higher taxation. The declared estimated working profit for the first half of the year amounted to £22,768,000, against £27,760,000 for the comparable period of 1950. To these figures must be added revenue from premium gold sales. The 1951 figure thus becomes £25,736,000 and that for 1950, £27,510,000. It can be seen, therefore, that free gold sales have by no means entirely made up for increased costs.

How long this extra revenue will continue to accrue to the mines is an open question, and one rather for the economist than the mining engineer. When the profit margins of the various mines before adding revenue from this source are examined, the situation is not a particularly happy one.

SPAARWATER'S SURPRISINGLY GOOD RESULTS

On the purely mining side, the quarterly progress reports of a number of mines have produced some interesting developments. The one that has aroused the most comment is that of Spaarwater G.M. This company's property lies to the south-west of Sub Nigel with which it shares a common boundary. In its early days, great things were hoped of it, as well as for the adjoining mines, West Vlakfontein and West Spaarwater. These, however, were not realized. Spaarwater reached the production stage, but it has been barely keeping its head above water; West Spaarwater and West Vlakfontein have now been on a caretaking basis for some time.

The June quarterly report of Spaarwater disclosed a jump in development payability from 17.2 to 41.8 per cent. In addition, 180 ft. sampled in the 37 west haulage being advanced to explore the western side of the property averaged 17.8 dwt. over 36 in. equal to 641 in.-dwt.

The mineralization of the Sub Nigel-Vlakfontein area does not follow the same pattern as the rest of the Rand, being in the form of rich pay-shoots—probably laid down in the delta of an ancient river. The opening up of the Spaarwater area was based on the possibility of some of these shoots existing there, but so far none have been disclosed.

It is early yet to accept the latest disclosures in Spaarwater as being such a pay-shoot formation, but it does suggest possibilities in this direction.

This pay-shoot formation is also involved in the new areas being opened in the southern sections of E.R.P.M. and Van Dyk, as they are believed to strike through from the Sub Nigel-Vlakfontein ground. It will be recalled that some time ago drilling operations on E.R.P.M. gave excellent values at depth.

This was considered a good augury for the new area being opened up at Van Dyk, which is of vital importance if this company is to get back on a profit earning basis sufficiently good to resume paying dividends. Unfortunately, the latest report gives no indication of this, for out of 965 ft. sampled, only 15 ft. proved payable, averaging 5.4 dwt. over 29 in. In contrast with this state of affairs, development values on the adjoining property of E.R.P.M. reflected a sharp improvement over the quarter from 374 to 616 in.-dwt.

AN ENCOURAGING DISCOVERY

At the other end of the line of the Witwatersrand at Klerksdorp, a most encouraging discovery has been made by Western Reefs. On the 26th level, development into ground lying outside the existing lease area, but over which the company holds rights, yielded 89.6 per cent payability, 48.2 dwt. over 24.05 in., equal to 1,165 in.-dwt. If this mineralization exists over a large area, it will put this property up into the same class as Blyvoors and West Driefontein.

On the adjoining property, Stilfontein G.M., the Vaal Reef—now correlated with the Carbon Leader of the Far West Rand and the Basal Reef of the Free State fields—is being opened up. Large-scale development has only been in progress during the June quarter from the Charles shaft. Over 2,000 ft. sampled on reef has shown 100 per cent payability, averaging 45.5 dwt. over 6.9 in., equal to 314 in.-dwt.

This result gives full confirmation of the high measure of consistency of values suggested by the initial drilling results in this area. Of all the boreholes put down on reef, on Stilfontein and the ground to the south, 17 out of 18 intersected payable values, which is the highest ratio of any drilling programme ever conducted on the Witwatersrand or in the Free State. On the strength of these results, as mentioned last month, other new properties are to be opened up to the south of Stilfontein.

The continued intersection of water-bearing fissures, which require cementation and consequently retard the rate of shaft-sinking, is the almost general theme of all progress reports from the Free State.

The main news, however, is that Welkom is to start its reduction plant during the current quarter, using low-grade development rock for metallurgical tests. All going well, actual gold production should be underway before the end of the year. St. Helena, whose reduction plant is also being tried out, expects to enter the list of producers in October.

ANGLO AMERICAN CHANGE OVER TO CIRCULAR SHAFTS

The world shaft-sinking records put up in No. 3 shaft Virginia has resulted in the Anglo American group changing over from rectangular shafts—which have been used so far—in favour of twin circular shafts at Jeanette G.M., which lies to the north of Odendaalsrus on the Wit. Extensions property. It is hoped that this type of shaft will compare more than favourably with the original method in respect of ventilation capacity, speed of sinking and strength of shaft.

The two shafts will be sunk about 150 ft. apart—one upcast and the other downcast. The downcast shaft will be concrete-lined throughout. The shafts will be connected at each level to twin haulages—a system which is proving advantageous in development so far accomplished at Welkom G.M.

Apart from other advantages, the twin shafts, with their large ventilation capacity, can serve as separate units for each ventilation district and thus facilitate the ventilation of isolated fault blocks.

Bestwood Colliery Reorganization—II

The following article gives extracts from a paper presented at the General Meeting of the Midland Counties Institution of Engineers held at the University, Nottingham, on June 13, 1951, with the object of placing on record facts relating to a reorganization scheme which involved the conversion of a mine using tubs, endless-rope haulage and shaft-winding to a mine in which the whole of the output is transported from the face to the preparation plant by belt-conveyors. Part I of this article appeared in the August 3 issue of *The Mining Journal*.

In connection with driving the drift through the dry strata, it had been realized for some time that the system of transporting the stone from the drift was inadequate if mechanical loading was to be adopted and reasonable progress made. Therefore, it was decided to install a Sullivan Slusher Type 211, which was to load into a Distington drop-bottom mine-car of 6-ton capacity. Two identical cars were obtained with a view to filling one while transporting the other, but this was never found to be necessary, and only one car was used throughout the whole drivage.

A ramp was constructed on the surface on which the mine-car door opening-and-closing gear was installed. The car discharged into a hopper of 10 tons capacity, the stone being delivered out of the hopper on to a short conveyor which elevated it for loading into internal-user railway wagons. The full wagons were shunted by the colliery loco to the dirt-tip, where they were emptied by hand. This system of emptying was extravagant in labour. After one year's working, two Aveling-Barford shuttle dumpers were obtained, each with a capacity of 4½ cu. yd. These were loaded direct under the elevating conveyor and were used in place of the internal-user wagons. One driver/shift was sufficient to maintain efficient dirt disposal and carry out the running maintenance on the dumpers. Eight men/day had previously been used emptying wagons; thus, the introduction of the dumpers resulted in a saving of five man-shifts/day, plus the time of loco driver and shunter who had been engaged in shunting the dirt-wagons.

OPERATIONS AT THE FACE

Due to the "flat" section of the drift face and to the relatively soft nature of the ground, the whole of the drilling was done by hand-held machines. Wherever possible, rotary compressed-air machines, with 1 13/16-in Rip bits, were used. When the nature of the strata necessitated it, Holman "SL 9" percussive machines were used with wet drilling. The shotfiring pattern, usually consisting of about 30 shots, was designed to give 6 ft. advance with each round fired. The shotholes were stemmed with sand prepared in combustible paper cartridges and fired by delay-action detonators.

All the loading in the drift drivage through the dry strata was done by a Sullivan Slasher, Type 211, with a bucket capacity of 3 cu. ft., driven by a 20 h.p. electric motor. The jib of the slusher was extended to facilitate loading into the mine-car.

Experiments were carried out on the most economical maximum distance that the slusher bucket was to travel, and finally a maximum distance of approximately 16 yd. was imposed. This meant that the slusher was moved up once for every 8-yd. advance of the face of the drift.

The arches used were 15 ft. wide inside and 7f t. 6 in. high and were made from 5-in. x 3-in. R.S. sections. The leg of each arch was set on a piece of 8-in. x 4-in. R.S.J., 12 in. long, which was placed on its side on the floor. Inverts of the same 5-in. x 3-in. section were subsequently fish-plated on to the legs of the arches. The arches were set at 3-ft. centres.

The drift was usually driven for a distance varying between 40 and 60 yd. before the floor was cleaned up and the inverts set. The stone from the floor was loaded into the mine-car by hand, the inverts set and fish-plated, and the rails moved across into the final position. Concrete, mixed on the surface and transported down the drift in "Jubilee" wagons, was then placed in position to form a floor approximately 15 in. thick.

Throughout the length where concrete was placed, a trough 14 in. wide and 5 in. deep was formed between the rails. In this trough 4-in. x 4-in. R.S.J. were laid at 4 yd. intervals and held in the concrete on each side of the trough. This acted as stops for the drag on the back of the mine-car. When the concrete had gone off, curved rails were laid to bring the track back into the centre of the drift ready for slushing. During this operation the slusher was left at the face on 1 pair of rails.

PROGRESS

During normal weeks, drivages of 30 yd. for 5 days were common, and the best ever obtained was an advance of 33 yd. in 5 days, working 3 shifts per day. A target was set of 6 ft. advance per shift, which consisted of boring, 2 h. stemming and firing ¾ hr., loading and timbering, 4½ h., snap, ¼ hr., total 7½ hr. During this time, a cycle was completed, setting 2 rings and covering them in. This drivage, however, did not cover the cleaning-up of the floor, the setting of the inverts, and the concreting in the floor, which was done at a later date.

During 1949, 701 yd. of the main drift was driven, plus 90 yd. of drift 10 ft. wide. In addition, 1 major junction and 1 water-lodge were constructed and 448 yd. of concrete floor was placed.

The crew per shift used on this work consisted of 6 headers, 2 masons, 1 haulage driver, 1 dumper driver, 1 fitter, and 1 deputy.

One of the main difficulties at the outset was keeping the line of the drift and the line of the gradient correct. The system finally adopted was to form a concrete plinth in the drift at 200 yd. intervals, on which an old theodolite was mounted and set to line and grade. This was used every shift by the official in charge to take the necessary sight.

CONSTRUCTION OF CONVEYOR TRANSFER POINTS AND UNDERGROUND BUNKER

All transfer points were commenced after the completion of the drivage of the main drift. When the construction of this transfer point commenced, the two sections of the drift were joined by the 80 ft. radius mine-car curve.

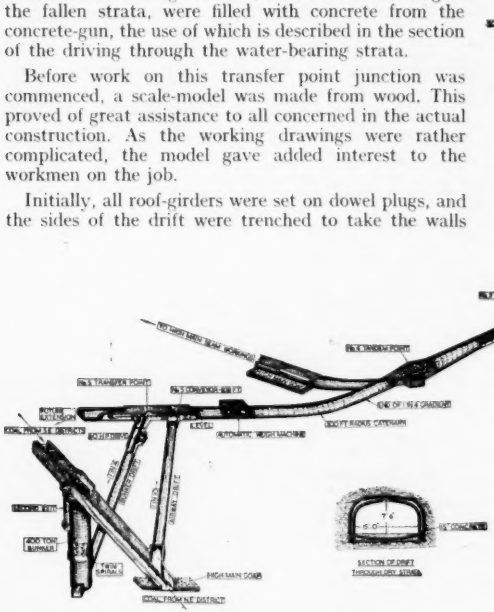
The strata in the first straight section of the drift where the transfer point was to be constructed was in a thoroughly wet and broken condition, and, in spite of the fact that large wooden chocks had been built at each side of the transfer point, much of the ground had fallen. It was therefore decided to approach the junction by driving outbye from the end of the mine-car curve towards No. 1 straight section of the drift. This was done by forming an arch junction at the inbye end of the curve by taking sections of arch out and putting in extension pieces. This was immediately shuttered and lined with

18 in. of concrete. When this work was completed, heading was commenced rising at 1 in 4 and following the centre-line of the inbye drift. The slusher was mounted at the newly formed junction and used for loading the stone from the heading. The normal drift section rings were set, until a point was reached where the floor of the drift continued level to form the motor house.

The heading was continued upwards at 1 in 4 and 18 ft. x 12 in. x 8 in. girders were set on dowel plugs. The side walls were got out in sections and bricked down to the finished level. When the junction was reached, all brickwork was made in blue brick, because of the wet nature of the strata. Four corner pillars of the junction were built in brickwork, and the bearing girders and roof girders of the junction set before any of the outbye drift was disturbed. The work of recovering the drift on the outbye side of the junction was then commenced. In this section arches were set in a minimum of 18 in. of reinforced concrete. Large cavities, which occurred owing to the fallen strata, were filled with concrete from the concrete-gun, the use of which is described in the section of the driving through the water-bearing strata.

Before work on this transfer point junction was commenced, a scale-model was made from wood. This proved of great assistance to all concerned in the actual construction. As the working drawings were rather complicated, the model gave added interest to the workmen on the job.

Initially, all roof-girders were set on dowel plugs, and the sides of the drift were trenched to take the walls


No. 3 TRANSFER POINT
No. 3 CONVEYOR 400 FT.
No. 4 CONVEYOR 375 FT.
No. 5 CONVEYOR 375 FT.
No. 5 TRANSFER POINT
No. 4 TRANSFER POINT
No. 3 TRANSFER POINT
ONE OF 15 K.P. CHARGERS
100 FT. RADIUS CATENARY
AUTOMATIC WEIGH MACHINE
LEVEL
SECTION OF DRIFT THROUGH DRY STRATA
SECTION OF DRIFT THROUGH WATER BEARING STRATA
HIGH MAIN COAL
COAL FROM NE DISTRICT

down to the finished level. By doing this work in sections, the actual transfer points and motor-houses were completed. As the return end of each outbye conveyor had to be sunk into the floor of the drift some 5 ft., it was necessary to fly-out this trench outbye of each transfer point. This was done by excavating by hand, fish-plating extension pieces on to one side of the drift arches, cutting off approximately half of the invert, and lining the whole excavation with concrete. During these excavations the whole of the stone was loaded by hand on to short scraper-chain conveyors, which loaded into the mine-car.

It was originally planned to construct a horizontal-type bunker underground on the line of the drift, into which the coal was to be distributed by twin-shuttle conveyors, but after consideration, this was abandoned and it was finally decided to put in a vertical bunker, 20 ft. dia. and 90 ft. deep, and for the coal to be lowered through the bunker by two cast-iron spirals with an outside dia. of 5 ft., the estimated capacity to be 400 tons.

Before a final decision was reached, considerable discussion took place on this very important subject. It was originally intended to install three conveyors in the drift, each of 200 h.p. This idea was abandoned, and, as a compromise, it was decided to install one 200 h.p. conveyor over the top length and four 120 h.p. conveyors in the inbye section of the drift (see illustration).

The driving unit for the No. 1 conveyor, which is 1,104 ft. centres, consists of two driving pulleys, each of 66 in. dia., driven through a totally enclosed reduction gear by a 200 h.p. slip-ring motor supplied at 3,300 volts. The head and tail pulleys are 42-in. dia. There is a fixed take-up behind the head and a floating gravity take-up at the tail end. The driving gear is provided with a "Thrustor" automatic brake, and also run-back prevention gear of the silent ratchet type. Top troughing idlers of the 5-pulley type, running on ball-bearings at intervals of 4 ft., are set along the framework of the conveyor, which is constructed of 8½ in. x 2½-in. channel-stringers.

The top-carrying belt runs at 3 ft. from the floor of the drift at a speed of 340 ft./min. The belting consists of special heavy-duty cord belt, 42 in. wide, 3-ply, $\frac{3}{16}$ in. top

BESTWOOD COLLIERY—LANCASTER DRIFT. CONVEYOR DETAILS

Conveyor	*Drives*				*Head Pulley*	*Return Pulley*	*Belts*			
	Type	*No. of Drums*	*Dia. in.*	*H.P.*	*Dia. in.*	*Dia. in.*	*Type*	*Width in.*	*Length ft.*	*Speed ft. per min.*
No. 1	"Blowright"	2	66/66	200	42	42	3-ply Cord $\frac{3}{16}$ in. top $\frac{1}{8}$ in. btm.	42	1104	340
No. 2	"Monarch"	3	42/36/40	120	30	30	6-ply 42 oz. Duck $\frac{1}{8}$ in. top $\frac{1}{16}$ in. btm.	42	600	340
No. 3	"Major"	2	36/36	120	30	30	do.	42	575	340
No. 4	"Major"	2	36/36	120	30	30	do.	42	575	340
No. 5	"Major"	2	36/36	120	30	30	do.	42	839	340

and $\frac{1}{8}$ in. bottom rubber covers, incorporating a breaker strip over the edges of the belt.

The No. 2 conveyor, which is 600 ft. long, is driven by a "Monarch" type driving-head. The three driving-drums, which are 42-in., 36-in., and 30-in. dia., are driven through a size 23-in. Vulcan-Sinclair fluid coupling by a 120 h.p. Trislot squirrel-cage motor, supplied with power at 3,300 volts. An automatic 18-in. Thrustor brake is fitted on the high-speed shaft to prevent the conveyor running back when stopped under load. A Rotherham relay delays the releasing of the brake when starting until the fluid coupling has allowed the motor to attain 75 per cent full speed. The running belt speed is 340 ft. min.

The delivery jib has a 30-in. dia. steel drum running on external bearings, in spherical housings, which allow the drum to find its own position in the steel guides, ensuring that only radial loads are imposed on the bearings.

The transfer from jib to the following tail end is by curved bottom chute, beneath which the belt is supported on impact idlers. The transfer point is totally enclosed to prevent the dissemination of dust into the atmosphere and is fitted with sliding inspection doors while the top cover trays are readily removable in case of emergency.

The return end is fully floating with a steel drum, 30-in. dia. supported in a wheeled carriage, to which tension is applied by a steel rope and suspended weights. In this way, the maximum tension required to start the conveyor is never exceeded.

The conveyor is at 1 in 4 gradient from the head pulley to within 120 ft. of the return pulley. It is then at 1 in 3 grade for 64 ft. and then at 1 in 4 for 56 ft. This is necessary for the No. 3 Conveyor to continue inbye at 1 in 4 from the head pulley and, at the same time, provide the necessary delivery height between the two conveyors. By this method, the catenary is put in the conveyor at the point where the belt tension is least.

THE FRAMEWORK

The framework consists of channel-stringers, 36 ft. in length, supported on standards at 12-ft. centres. The height of the carrying belt is 3½ ft. above floor-level with the return belt just visible below the stringers. The top idler rests, each consisting of three rollers, are spaced at 4 ft. intervals, and the return rollers are 12 ft. apart. All rollers are 4-in. dia., steel shelled, running on precision ball-bearings, which are grease-packed during manufacture. Grease nipples are provided for periodic lubrication.

The belting is 42 in. wide, 6-ply, 42 oz. duck ,with $\frac{1}{8}$-in. top and $\frac{1}{16}$-in. bottom rubber covers. It was put on in two rolls, one larger than the other, so that both joints could be vulcanized on the top of the conveyor framework.

Conveyors Nos. 3, 4, and 5 are identical with No. 2 Conveyor, with the exception of the lengths and the driving-gears. No. 3 Conveyor: 575-ft. centres; No. 4 Conveyor: 575-ft. centres; No. 5 Conveyor: 839 -ft.centres (final length), 300-ft. centres (temporary length).

These three conveyors are driven by "Major" type driving units. The two driving-drums are of steel construction, 36 in. in dia., and are supported on self-aligning ball-bearings. The base-plate is of heavy rolled-steel sections and is split along the centre-line for ease of handling.

THE PRIME MOVER

The prime mover is a 120 h.p. Trislot squirrel-cage motor, mounted within the frame of the machine, and driving through a 23-in. traction-type fluid coupling. An 18-in. Thrustor brake is fitted and incorporates a Rotherham relay to delay the release of the brake when the power is switched on. This avoids running back when starting under load in the period before the fluid coupling is transmitting sufficient torque to drive the belt in a forward direction. The belt speed is again 340 ft./min., and the voltage of the power supply, 3,300.

All conveyor switchgear is fitted with full electrical protection. In addition, full sequence stopping and starting is provided. Emergency stop-buttons are fixed to the conveyor structure at 30 yd. intervals throughout the length of the drift. The stopping of a conveyor by any one of these buttons will stop all inbye conveyors in the drift. Each conveyor is fitted with belt slip protection and also the "Crossland" device. The latter consists of a short hinged portion on the chute next to the jib drum, so that, should any fouling occur between the jib drum and chute, a trip-switch operates and stops the conveyor.

When No. 5 Conveyor is extended to its full length to convey the coal from the underground bunker, a Blake-Denison type automatic-belt weighing-machine will be installed along the level portion. This machine will not only record locally the tonnage passing on the conveyor, but also record the tonnage remotely in the surface control-house on a continuous chart.

All conveyor-belts are examined at the end of each working-shift. Any mechanical damage is immediately rectified. Any cover damage to the belt, however slight, is repaired with a "cold" repair.

A complete examination of all mechanical and electrical parts and also of the conveyor-belt is made on the night-shift of each working-day.

CONCLUSIONS AND RESULTS

In 1946, the annual saleable output was 744,677 tons and the O.M.S. was 29.3 cwt. A steady increase in output and O.M.S. has taken place over the last 5 years as the policy of concentration has been pursued. By 1950, the annual saleable output had increased to 939,443 tons and the O.M.S. to 37.5 cwt. In February, 1950, the first item of plant in the reorganization scheme was put into operation, namely, the 200 tons per hr. washery, which resulted in the saving of 12 man-shifts per day.

The second major step was taken on March 28, 1951, when Stage I of the drift scheme was put into operation. Then, all the coal from the south-east section of the High Main Seam was diverted to the drift conveyors, resulting in the elimination of No. 2 Shaft for coal-winding purposes.

A total of 126 man-shifts per day have been saved from transport and coal preparation at the completion of Stage I. Unfortunately, at the time of writing, although 46 men have already been transferred to coal-face work, a portion of the underground labour has had to be transferred to the development of Stage II of the drift scheme. Also, a portion of the surface labour saved is being employed on demolition and reconstruction work. Therefore, it is too early to give actual results as an O.M.S.

It is hoped that Stage II will be completed by December, 1951. Then the whole of the coal from the High Main Seam will be transported to the surface on the drift conveyors, resulting in the complete elimination of the shafts for coal-winding purposes and the saving of a further 147 shifts per day.

The saleable output will be increased to 4,000 tons per day by up-grading a portion of the labour saved and the balance will be allowed to waste. The projected overall O.M.S. of the colliery, when Stage II is completed, is 48.4 cwt. with a coal-face O.M.S. of 91 cwt. This coal-face O.M.S. has already been exceeded.

Centenary of Australian Gold Production

It was in 1851 that Edward Hammond Hargreaves notified the Colonial Secretary of New South Wales that he had found native gold. This event is generally accepted as the birth of Australia's gold mining industry, although it was by no means the first discovery of the precious metal. In this centenary year it is interesting to turn back and view the excitement occasioned by Australia's first gold rushes through contemporary eyes.

Century-old volumes of the *Mining Journal* contain many first-hand accounts of the "boom" which followed the discovery of gold in New South Wales and Victoria. The first reference, however, is to discoveries in South Australia, which were reported in the issue of March 30, 1850. From three shovelfuls of gravel taken at random from the bed of the Torrens River, a hundred grains were said to have been extracted. Two companies, "backed by some of the best names in the Colony," were formed for the "washing and streaming" of gold, and there were great expectations that both of them would be "immensely successful." "The disposition which existed for emigrating to California had quite abated, and parties who had engaged passages were forfeiting their passage money, being convinced that they were going a distance to seek that which was at their door."

GOLD IN THE BATHURST DISTRICT

There appears to be no further mention of the South Australian ventures, but the following year, reports began to be received of the existence of gold in large quantities in the Bathurst district, New South Wales. On December 20, 1851, the *Mining Journal* was able to give its readers a detailed review of discoveries and prospects in this field, based on a pamphlet written by Captain J. E. Erskine, R.N., during his voyage home.

"It appears that as early as the beginning of 1849 a very fine specimen of gold in quartz was brought into Melbourne, found by a shepherd one or two days' journey from the town. The general feeling, however, was one of incredulity and many, said to have some knowledge of mineralogy, declared the specimen an artful fabrication. Subsequently more specimens were brought in, but still without causing excitement; and especially in one case a Mr. Trappit, who found a lump at the root of an old tree, was persuaded that it was the effect of a bush fire on some gold watches that must have been stolen and planted there. Strange that the simple experiment of washing some of the alluvial soil or sand was never thought of. On May 2, however, the *Sydney Morning Herald* intimated that it was no longer a secret or matter of doubt that gold had been found by Mr. E. H. Hargreaves on February 12 previously, and on May 8, that gentleman delivered a lecture in Bathurst, publicly announcing his discoveries and exhibiting specimens of gold which he had found. Two days afterwards, three persons left Bathurst and on May 12 two of them returned, bringing one piece which weighed down 35 sovereigns; one piece was half an ounce in weight and several smaller pieces another half ounce.

"The furore now took place and digging fairly commenced, and so rapidly did people collect that even in that thinly-populated country 500 or 600 were at work by May 19. Prices of provisions were rapidly raised and great alarm existed among proprietors, stockholders and tradesmen that all their workmen would desert them. Hargreaves received a reward of £500 and the appointment of land commissioner at £500 a year, with a view to prospecting for other gold sites. A constabulary force was raised to preserve order, and a Government fee of 30s. per month established. Such is the history of this truly interesting discovery."

Erskine placed the value of the gold known to have been shipped between May 23 and August 18 at £50,000 (at Sydney prices). The Commissioner's returns of licences sold in August had not yet been made public, but it was known that nearly 2,000 had been issued during the first few days of the month at the Summerhill and Turon creeks, and the numbers were increasing so fast that the appointment of a third assistant commissioner was considered necessary.

This account was confirmed by the arrival of Sydney and Melbourne papers, from which it appeared that, despite bad weather, the number of "workmen" probably reached 10,000 and the amount of gold received in Sydney was averaging £20,000 a week.

A few weeks later the *Mining Journal* published an extract from a letter dated Sydney, September 13, 1851, which stated: "The quantities now likely to be produced from this Colony of pure gold stagger all belief, and must have a powerful effect on the gold standard of value in Europe. Above 10,000 people are working on the creeks, but we now have evidence of vast quantities of gold abounding in a sort of brown clay, through which runs 5 or 6 in. thick of nearly pure gold, besides the mass being spangled with small nuggets of the same metal. I fear almost to write what may be produced this year, but I am within bounds in saying many millions, assuming the accounts to be veracious and yields to be one half of the present indications. A piece of ore or rather clod weighing 150 lb. was brought to town this morning from the estate of Mr. W. O. Wentworth; a most curious clod, which is expected to turn out to be about one-third of pure gold. A bridge built some time ago on the same gentleman's estate of mountain quartz is, I believe, now being pulled down, the whole structure being charged with gold in the matrix. It is remarkable that the roads have actually been mended for many years with the same materials, and not less singular that the discovery has not been made earlier. Vast excitement abounds in our city this morning in consequence of these wonderful discoveries. There is no topic but gold, and people who a month or two ago spoke diffidently of grains, pennyweights and ounces, now talk confidently of hundredweights and tons.

REMARKABLE DISCOVERIES IN VICTORIA

Early in 1952 the *Mining Journal* also reported remarkable discoveries in Victoria, which had been constitutionally separated from New South Wales on July 1, 1951. "At Buninyong, 80 miles from Melbourne, deposits have been discovered far exceeding in value anything previously met with. The whole population was on the move towards the district, and rivers for miles round proved rich in gold. One spot of limited extent was so rich that a space, 8 ft. square, was considered by the commissioner sufficient for each man, for which the licence money was freely paid. One man obtained £1,500 in a week, another—a blacksmith—got £1,000. A party of three men found 20 lb. weight in one day, while another before breakfast raised 13 lb. weight. At the Ballarat goldfield one lucky individual obtained £900 in a day."

The correspondent of a "highly respected London firm" wrote from Port Philip: "I have just returned from the goldfields; it is a great reality. To give you some idea of the richness of the field in some parts I saw a milk dish, 18 in. diameter, filled and washed—the whole time did not exceed half-an-hour—and it yielded 2¼ lb. of pure gold.

The man was offered £100 for a dishful before it was washed. His answer was: 'No, I will chance it'." Hundreds of people of all classes were leaving daily for the fields, Melbourne being almost deserted but for women. In November, 1851, the Lieutenant-Governor during his visit to Ballarat proposed to miners that they should withdraw for two months, their claims being meanwhile guarded, in order that the Colony's crops should not be destroyed. Blacksmiths were making rapid fortunes, charging 10s. a week for keeping hoes in repair. By the beginning of November, 1850, gold had been discovered near Melbourne "in such prodigious quantities" as to leave the Sydney diggings completely in the shade. "The sister colonies are daily being deserted by all classes of labourers who are hurrying to the El Dorado. Hundreds are arriving from California itself, lured by the reputed wealth of the Victoria Province. From all accounts the Melbourne diggings are inexhaustible."

In a leading article written in November, 1851, the *Mining Journal* saw fit to strike a warning note. "It has long been an axiom," wrote the Editor, "that a coal mine is more profitable than gold seeking, and much as has been said and written about the auriferous riches of California and Australia, we think circumstances are now transpiring which will tend to turn the attention of the thoughtful and the enterprising to exploration of some of the yet untrodden mountains and valleys of our own islands, before they run the risks of a journey to the Antipodes where, for one who succeeds to any extent, hundreds have reaped, and more will reap, the fruits of their ignorance and folly in ruin, misery and death."

It was not long, however, before the vast potentialities of the Australian fields captured the imagination of the journal. "Gold exists in both California and Australia," wrote the editor a few weeks later, "but precious metal may be bought too dear. Attainment of it under all circumstances is most difficult; bowie knives, revolvers and lynch law accompany it with Brother Jonathan. The pursuit in Australia is of a different nature, and has the protection of law thrown over it, which is always respected and not turned aside according to the caprice of the mob. On principle we have always advocated employment of our capital in home mines instead of foreign speculations. Our colonies are part and parcel of ourselves, and we would ask those who would seek gold in California to cast a passing glance at Australia."

"MOST SOLID ADVANTAGES TO THE COLONY"

Subsequent editorial comments continue to stress the protection afforded to miners by British law and order and the opportunities for British capital. "On the whole, the discovery appears likely to produce the most solid advantages to the colony, instead of the misery and crime which resulted from similar circumstances in California." A bull point put forward for Australia was the projected establishment of a steamer service which would bring the colony within two months of England.

Of interest, too, is the correspondence which appeared in the *Mining Journal* during 1851 and 1852 regarding the true discoverer of the Australian goldfields. Hargreaves himself had been struck by the similarity of the country to California, but it is noteworthy that both Strzelecki in 1839 and Sir Robert Murchison a few years later predicted the existence of goldfields from the geological similarity of the Eastern Chain of Australia with the Ural Mountains.

The gold boom created immediate problems for Australia by draining the farming colonies of men and money. In the long run, however, it created employment and markets, stimulated industrial expansion, and played a vital part in the development of the Dominion.

REVIEWS

A Mining Engineer's Survey Manual.—*By J. E. Metcalfe.* 1951, *London: Published for Mine and Quarry Engineering by Electrical Press Ltd.* 5¾ *in.* x 8¾ *in. Pp.* x+341. *Figs.* 144. *Tables xxxi. Price* 30*s. net.*

The author, who has spent nine years in West Africa, mostly as the chief surveyor of a gold-mining company, has written this book primarily for the engineer who wants details of methods and practical help in mine-surveying problems. While it is not a students' text-book, it should be useful in preparing the young surveyor for the problems he may encounter in the field.

In his book, the author has taken for granted a knowledge of the principles of surveying and much of the material to be found in textbooks has been omitted. At the same time, the plan of the book, treating mine-surveying in the logical stages of mining between preliminary reconnaissance and production, has demanded a certain amount of trespassing on ground already well covered, but such inroads have been kept at a minimum. In the case of triangulation, for example, only the more practical aspects have been stressed, especially the frequently ignored subject of adjustment of observations. In the section on correlation through vertical shafts, attention is focused only on the most practicable methods, and surveying in inclined shafts, raises and winzes, has been treated fully.

The South African Financial Year Book, 1951.—*Editor: E. Landsberg.* 1951, *Cape Town: R. Beerman, Publishers (Pty.) Ltd.; London Agents: Thomas Skinner & Co. (Publishers) Ltd., Gresham House, Old Broad Street, London, E.C.2. Pp.* 1434. 6½ x 9¾ in. *Price* 55*s. (net).*

The South African Financial Year Book is a well compiled and thoroughly revised source of information concerning all companies operating in South Africa and known to the South African and London Stock Exchanges. It deals not only with the South African gold mining companies, but also with the numerous industrial concerns, many of which are not so well-known, but are likely to receive greater attention in due course. Apart from the important financial and technical developments in gold mining enterprise in the past year, many changes have been brought about by the rise in commodity prices, notably of wool, base metals and platinum; changes in Union and British taxation have also taken place. These, and other essential matters, are duly noted in the 1951 edition, which incorporates late information up to April last. The book is an essential addition to the desks or bookshelves of all stock brokers, issuing houses, financial institutions and investment advisers.

The Colliery Year Book and Coal Trades Directory, 1951.—*Twenty-ninth Edition.* 1951, *London: The Louis Cassier Co., Ltd.* 8⅝ *in.* x 5½ *in. Pp.* 940. *Price* 30*s.*

The 1951 Edition of The Colliery Year Book contains, as usual, full information regarding the coal mining industry and everything connected with it. Much of the book has been re-arranged to improve reference facilities, new material has been introduced and sections which are already familiar to readers have been amplified. The N.C.B. having now dispensed with the numbers prefixed to the various Divisions, a new system of cross reference from the Mines Index has been devised. New features include a list of Headquarters-controlled establishments, and the main points in the "Plan for Coal" proposed by the N.C.B.

The editor has spared no effort in the preparation of this reference book which will be of great service to all connected with the coal mining and allied industries.

Machinery & Equipment

Bagnall Locomotives

An illustrated catalogue issued by W. G. Bagnall Ltd., Castle Engine Works, Stafford, recalls the origin and development of the firm, which built its first steam locomotive in 1875. In the succeeding years Bagnalls built steadily increasing numbers of locomotives mostly with side and saddle tanks for collieries and mining companies. As the requirements for more powerful locomotives developed so did the firm's resources until they were building locomotives of all sizes up to 5 ft. 6 in. gauge and for all duties on many of the world's most important lines. The catalogue illustrates locomotives with wheel arrangements from 0-4-0 to 4-8-2 and the company claims that it handles in the course of a year a variety of locomotive types which is unsurpassed. Its output for British railways has been considerable over the years and continues to-day.

While formerly production has been concentrated on steam locomotives, Bagnalls are now also developing in conjunction with their associated company, The Brush Electrical Engineering Co. Ltd., and its subsidiary Diesel engine manufacturing companies, the manufacture of Diesel-electric locomotives.

The catalogue illustrates locomotives supplied to, *e.g.*, the Butterley Co. Ltd., the N.C.B., Springs Mines Ltd., Waiki Gold Mining Co., N.Z., Anglo-Iranian Oil Co., Mufulira Copper Mines, Burma Corporation Ltd., Baldwins (South Africa), and the Eti Bank, Turkey.

A List of Parts is included in this catalogue, which will be of great interest to all users of locomotives.

New George Kent Magnetic Oxygen Recorder

George Kent Ltd., London and Luton, announce the development of a new paramagnetic continuous oxygen recorder for use in industrial processes. Robust, reasonably priced and accurate, the new instrument is claimed to be in complete contrast to the expensive and complicated equipment in common use until recently. The new recorder will meet all the usual demands, *e.g.*, for the analysis of furnace atmospheres in the metallurgical industries, analysis of waste gases from open-hearth furnaces, analysis of flue gases in boiler plants, measurement of oxygen content in processes for purifying domestic supplies of coal-gas and in oil refineries, to name a few. It is expected that many industries which have in the past relied on inferential oxygen analysis (depending on the estimation of the content of other gases) will now adopt direct analysis with the new instrument.

The design of the primary element of the recorder (the analyser) is based on the so-called "magnetic wind" principle, owing its efficacy to the fact that, of the common gases, only oxygen and nitric oxide are attracted by a magnetic field, oxygen more than twice as strongly as nitric oxide. The manufacturers, after five years intensive research, have taken advantage of modern circuit technique and recent improvements in magnetic and other materials to bring this method to an advanced stage of development and refinement.

Mounted in a small cast aluminium case, the primary unit is neat and compact, easily installed and requires practically no maintenance.

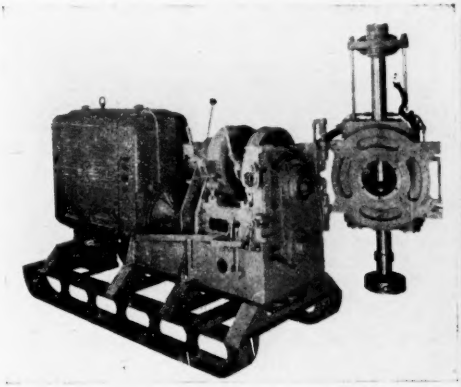
A generous sample of 15 litres p.h. is passed through the analyser, which begins to register a change of oxygen content within five seconds of its occurrence and gives a 95 per cent response in 45 seconds. An analyzer of this type is sensitive to ambient temperature conditions, which are automatically compensated for by means of a resistance thermometer in a circuit capable of dealing with the range 0°-50°C. The temperature of the gas sample must not exceed 75°C. at the analyser inlet.

New U.S. Hydraulic Diamond Drill

Continental Ventures, Inc., 1023 Penobscot Building, Detroit 26, Mich., has arranged with Minerals Engineering Co. of Grand Junction, Colo., to make a variety of drilling tests using the new International Hydraulic Diamond Drill (illustrated below) on some of the properties being developed by Minerals Engineering Co. in a uranium minerals bearing area of Colorado.

The hydraulic diamond drill to be used is the latest model designed and developed by Peter J. Harinck of Detroit, and is claimed to introduce a number of advantages never before available in diamond drills. It is stated to differ from other competitive drills (both hydraulic and screw feed) in that it accommodates any size rod by simply changing the chuck and guide bushing on top of the spindle.

The inventor says that the International Hydraulic Diamond Drill is the only drill on the market to-day with "automatic pressure control." This function is performed by a mechanism known as the "Hydraulic Brain," a device which increases or decreases the feed pressure according to the hardness of the structure being



International Hydraulic Diamond Drill

drilled. The harder the rock, the greater the flow of oil through a by-pass; consequently the decrease of oil pressure in the main cylinder results in decreasing the feed pressure applied to the bit. The inverse is true when meeting softer rock. As the rate of descent increases, the flow of oil through the by-pass lessens and the cylinder pressure then builds up to normal operating range for the feed control setting.

As different materials are encountered, the changes in pressure are indicated on a dial.

Another important feature is that the speed of the downward stroke is rendered independent of the engine and machine itself by hydraulic control. This makes it unnecessary to change the gears regardless of the depth or type of rock formation encountered.

All these improvements are said to add up to longer life for expensive bits, better core recovery, uniform downward speed and improved salvage on bits.

Specifications: Weight (including engine): 3,800 lb. Height: 52 in. Length: 100 in. Width: 40 in. Maximum Drilling Depth (A Rod): 4,000 ft. Size of Chuck: Chucks for any size Drill Rod may be used. Engine: Continental Red-Seal; Model F-600, Series F-226; 6-Cylinder with 5-speed Fuller Transmission and Hydraulic Controlled Clutch. Rating: 58 h.p. at 1,800 r.p.m.

Metals, Minerals and Alloys

Probably the most important development this week has been the passing by Congress of a fresh Defence Production Act which seems definitely conceived to promote general price increases in the U.S. As these are the bases of world prices for metals and minerals such inflationary effect may become operative throughout world trade. Officials of the office of Price Stabilization view some of the new provisions as virtually impossible of realization and in any case involve complex enquiries and examination of books and records which must at least defer the assurance of agreed prices for months while general inflation continues to make headway. The stimulus to labour demands for increased pay may also be serious.

Copper.—The vote of the I.U.M.M.S. taken last week revealed an 85 per cent rank and file approval of strike action and this has now been supported by the Metal Trades Council of the A.F. of L. who have voted to call a strike on August 20. Thus the two master Unions ,the C.I.O. and the A.F. of L., are aligned to act together in plans to call a strike if their wage requirements are not met. There have been sporadic strikes in some of the works of the American Brass Co. for some time. Demands for higher pay from the producing and copper-consuming industries constitute a far-reaching threat to President Truman's whole stabilization policy as well as to the copper industry at all stages, and probably the inflationists have got the whip-hand. (Last week's paragraph regarding the Garfield smelter strike was misplaced and printed as part of the "Lead" section.—*Ed. M.J.*)

The O.P.S. has now definitely approved a 27½c. domestic price for copper refined from imported ores and concentrates, but the ceiling for domestic material is unchanged at 24½c. August delivery copper is said to be in brisk demand. President Truman has set up one more Government agency to increase the supply of copper and other strategic materials in the U.S. and abroad. The new agency will be called the Defence Materials Procurement Agency. Its appearance, however, can hardly alter the material position.

Fresh discoveries of copper, gold and iron in Northern Quebec have been announced by the Premier, Mr. M. Duplessis. In Chibougamau district, 1,000,000 tons of copper-gold ore are said to have been located on Merrill island in Dove Lane near Chibougamou townside. The iron ore discovery is situated in Ungava, some 170 miles north-west of earlier big finds. The Quebec Labrador Development Co. is planning the outlay of some $C.80,000,000 on early developments.

What is sauce for the goose is not necessarily sauce for the gander was the gist of a reply by Mr. Stanley Evans, Parliamentary Secretary to the Ministry of Food to Nkumbala, Organising Secretary of Northern Rhodesian African Congress, last week-end. Mr. Evans is reported as saying it would be a "shameful thing" to nationalise the Northern Rhodesian copper industry at this time: anything that went to retard capital investment in Northern Rhodesia would be the worst thing possible, he added. Dare we hope that after Abadan the Government is realizing that nationalisation may be a two-edged weapon?

Of a $5,600,000 credit by the Export-Import Bank of Spain, $1,220,000 have been allocated to the Rio Tinto Co. to enable it to purchase machinery to assist increased production of pyrites, sulphur and copper. Other beneficiaries are lead-mines, and a tungsten project. The advance is redeemable within 20 years and carries interest at 3 per cent.

Lead.—It is understood in U.S. metal trade circles that the U.K. had purchased around 10,000 tons of Mexican lead in dollars for the fourth quarter shipment. Nothing definite has emerged from the conference of the Defence Minerals Administration, and U.S. importers as to how lead imports can be increased. It is still unknown whether foreign purchase of lead by U.S. private interests are to be exempted from the consumers' allocations which come into force at the beginning of September. Prices for domestic lead as well as the Mexican export price, are unchanged.

Tin.—Straits shipments in July were 4,775 tons compared with 5,771 in June. There were again no shipments to the United States and the distribution was as follows: U.K., 1,743 tons; Europe, 1,082 tons; British possessions, 1,003 tons; other countries, 947 tons. Indonesian output in July was again lower at 2,295 tons.

The R.F.C. has made no change in its selling price of Grade A tin, which remains at 103c. per lb. At the beginning of the week the spot price in London fell to half the record figure quoted on February 12. R.F.C. officials stated on Tuesday that Bolivia had been offered 112c. in the new contract which they expected to sign any time now. How far this will satisfy Bolivian producers remains to be seen. The first reaction in La Paz was adverse. Señor Carlos Aramayo in his speech to the Company Meeting on July 20, said that the decree of October 30 last established more reasonable working conditions, and it was hoped that the contracts made thereunder whereby the tin mining companies undertook to increase their production gradually up to a rate of 35,000 tons a year would be respected until they expired at the end of next October. A memorandum by the Bolivian Government to the recent U.S. Tin Mission stated that the grade of ore mined by the Patiño group was estimated next year at 0.9 per cent Sn, compared with 2.52 per cent in 1940; that of the Consolidada Minera Potosí is put at 1.40 per cent compared with 2.63 per cent in 1940, and of the Aramayo mines at 1.40 per cent compared with 4.55 per cent in 1940. Patiño's cost was said to have increased to three times the 1940 figure, that of Potosí to 3.34 times, and that of Aramayo to 2.94 times. Wage percentage increases were 77.9 per cent up for Potosí, 74.2 per cent for Aramayo and 72.6 per cent for Patiño, with considerably larger increases for Colquiri, Bolivian Tin and Tungsten and Araca.

It is reported from Bangkok that the Thailand Government is imposing destination controls on exports of tin and wolfram concentrates, iron ore, lead, zinc and antimony.

U.S. export targets for tinplate have been set at 125,000 s.tons for the current and succeeding quarter, but producers say the allocations of tin are insufficient for this figure.

Zinc.—Reports from United State producers and smelters express the fear that applications for August allocations may exceed the available supply. The domestic price remains at 17½c.

Quicksilver.—The U.S. price for domestic quicksilver was reduced on August 8 to $200 nom. per flask. Here the price is unchanged.

Sulphur.—More reassuring reports regarding United States production of sulphur products continue to be issued. The Deputy Petroleum Administrator, Mr. Brown, has stated that his industry will this year consume some 638,000 tons of sulphur and will release through its operations about 643,500 tons—a surplus of 5,500 tons. Moreover, plans are in hand to increase the output by 190,000 tons a year in the near future. The Mexican Gulf Sulphur Co. has arranged the financing of a new sulphur plant to be built at San Christobal, Mexico.

Tungsten.—With last week's announcement by the Ministry of Materials of the setting up of a tungsten minerals control, there is naturally no information obtainable regarding dealings in this country. The Ministry selling price of 535s. per unit is delivered consumers' works. Their buying price is, of course, below this, but will probably not be uniform, depending upon freight and importing costs. Following on the undertaking by the United States to guarantee a floor price of $63 per s.t.u. for tungsten trioxide, over a period of five years, a big tungsten boom is said to have started throughout the Western States. Last year the output of concentrates (60 per cent WO_3) was 4,240 s.tons, and this figure should be doubled in 1952. Thereafter they hope that the record of 1943 of 12,000 s.tons may be surpassed. Most of the tungsten ore obtained in the Western States is scheelite and intense prospecting activity with ultra-violet lamps is to be seen by night all over the mountains. Veins are located in the daylight, but can only be checked for tungsten content by ultra-violet lamps, which are reported to be practically sold out.

Gold.—The staff of the International Monetary Fund has now reported to the Executive Board the results of an enquiry, begun last March, in time for the Annual Meeting of the Governors in Washington next month. With South Africa then selling some 40 per cent of its gold at premium prices, it is difficult to see what more the I.M.F. governors can do, and France has long elected to paddle her own canoe.

The London Metal Market

(From Our Metal Exchange Correspondent)

With the market closed on Friday afternoon and Monday, there has been very little activity and the price level has remained steady at the lower level reached after the R.F.C's announcement of the reduction in its selling price to 103c. per lb. Demand has been negligible in the U.K. although there has been slight interest shown on the Continent.

The world tin statistics covering metal production for the first five months of 1951 show that the production in Malaya, United Kingdom and the Netherlands was all running at a slightly lower rate than for the previous 12 months but that the U.S.A. have been able to increase their rate of production to a small extent. It is unwise to draw any inference from these figures as they refer to a period of high prices and it would not be surprising if, at the end of the year, it is found that the rate of world production has decreased appreciably.

On Thursday the official close on the tin market was: Settlement price £827 10s. Cash Buyers £825, Sellers £830, Three months' Buyers £805, Sellers £830. In the afternoon the market was steady. Turnover for the day was 35 tons. Approximate turnover for the week was 385 tons.

The Eastern price on Thursday morning was equivalent to £823 10s. per ton, c.i.f. Europe.

Iron and Steel

The enervating influence of the holidays is still apparent in the iron and steel works. So many men are on holiday that production is below normal. This, of course, is merely a passing phase, but the difficulties created by the shortage of raw materials are more intractable. Short deliveries of coal are preventing the build up of fuel stocks at the works, and the fears of another winter coal crisis have not been dispelled. Moreover, the shrinkage in stocks of pig-iron and steel scrap is continuing. At the end of June pig-iron reserves at the steel works and blast furnaces had fallen to 185,000 tons whereas in August last there were 606,000 tons in hand. Stocks of steel scrap at the steel works and foundries were also reduced by 21,000 tons in June and at the end of that month totalled 328,000 tons compared with a stock level of 904,000 tons at the end of August last year.

These figures amply illustrate the gravity of the problems confronting the steel industry, and explain the reluctance of the makers to enter into commitments which they may be unable to discharge. Happily, imports of high grade foreign ores are coming to hand more freely and it is expected that another blast furnace on the West coast will be put into operation before the end of the month, on haematite. The additional output will certainly be very welcome. Supplies of high phosphoric iron for the light castings trade have recently been fairly adequate, but the better grades of iron required in the engineering and speciality foundries are so scarce that the starting of one haematite furnace will not suffice to overcome the shortage. Nor is the scrap situation any easier. In fact, the scrap market has to shoulder increasing demands owing to the continued scarcity of pig-iron. Re-rollers, too, are gravely hampered by the lack of billets and on this account are operating well below capacity. Some of the mills have not resumed after the holidays.

AUGUST 9 PRICES

COPPER

Electrolytic	£234 0 0 d/d

TIN

(See Metal Notes above for Thursday's Metal Exchange prices)

LEAD

Soft foreign, duty paid	£180 0 0 d/d
Soft empire, including secondary lead	£180 0 0 d/d
English lead	£181 10 0 d/d

ZINC

G.O.B. spelter, foreign, duty paid	£190 0 0 d/d
G.O.B. spelter, domestic	£190 0 0 d/d
Electrolytic and refined zinc	£194 0 0 d/d

ANTIMONY

English (99%) delivered, 10 cwt. and over	£390 per ton
Crude (70 %)	£305 per ton

NICKEL

99.5% (home trade)	£454 per ton

OTHER METALS

Aluminium, £124 per ton.	Platinum (scrap), £27.
Bismuth, 25s. 9d. lb.	Platinum, £27/£33 5s. nom.
Cadmium, 18s. 9d. lb.	Rhodium, £45 oz.
Chromium, 5s. 11d. lb.	Ruthenium, £30 oz.
Cobalt, 17s. 6d. lb.	Quicksilver, £73 10s./£74 ex-warehouse.
Gold, 248s. f.oz.	
Iridium, £65 oz. nom.	Selenium, 25s. nom. per lb.
Magnesium, 1s. 6d. - 2s. lb. according to quantity.	Silver (bar), 78¼d. f.oz. spot and forward.
Osmiridium, £35 oz. nom.	Tellurium, 19s. lb.
Osmium, £70 oz. nom.	
Palladium, £8 10s. oz.	

ORES, ALLOYS, ETC.

Bismuth	50% 15s. lb. c.i.f. 40% 14s. lb. c.i.f.
Chrome Ore—	
Rhodesian Metallurgical (lumpy)	£13 per ton c.i.f.
,, ,, (concentrates)	£13 per ton c.i.f.
,, ,, Refractory	£12 12s. per ton c.i.f.
Baluchistan Metallurgical	£13 18s. 6d. per ton c.i.f.
Magnesite, ground calcined	£26 - £27 d/d
Magnesite, Raw	£10 - £11 d/d
Manganese, Best Indian	(Nominal)
Molybdenite (85% basis)	103s. 6d. per unit c.i.f.
Wolfram (65%), U.K.	535s. c.i.f.
Tungsten Metal Powder (for steel manufacture)	35s. nom. per lb. (home)
Ferro-tungsten	33s. nom. per lb. (home)
Carbide, 4-cwt. lots	£30 3s. 9d. d/d per ton
Ferro-manganese, home	£37 19s. 10d. per ton
Ferro-manganese, export	Nom.
Brass Wire	2s. 7½d. per lb. basis.
Brass Tubes, solid drawn	2s. 1½d. per lb. basis.

The Mining Markets

(By our Stock Exchange Correspondent)

The combined effects of the holiday season, Mr. Gaitskell, and the end of the account, have not encouraged active market conditions. Trading has been quiet, and the energies of investors and members have been principally exerted in an attempt to judge the influence of statutory dividend limitation on individual share prices. This has in most cases proved a thankless task. While the position of many companies can be fairly accurately assessed, that of others is far from clear. The loose wording of the White Paper itself has been the cause of much difficulty. Although the Treasury is usually ready to give assistance and guidance in clearing up doubtful points, it is believed that even this has been withheld. City circles consider that this is due to the timing of the statement and the present Parliamentary recess, which probably make it difficult for officials to obtain the necessary information from Government quarters. Overshadowing the whole problem are the domestic political uncertainties. Will the draft go through Parliament in its present form? Will concessions be made? Will there be a general election this Autumn, and if so will the result cause all this legislation to be stillborn? These are questions of primary importance which cannot be answered to-day.

In the Kaffir section, last week's tendency to put South African shares better on account of their overseas domicile was not followed through. Investors are chary of the rising trend of costs which draws ever nearer to a fixed gold price. Van Dyk were better on Cape demand.

Among Orange Free State issues, Harmony jumped on the good LR7 borehole results. Middle Wits also hardened for the same reason. The LR7 borehole is situated on farm La Riviera 289, and in a deflection the Basal reef was intersected at 5,577 ft. assaying 98.8 dwt. over 21.8 in. equivalent to 2,154 in.-dwt.

West African issues were somewhat firmer but this market still remains in the doldrums. Despite dividend limitation attractive yields can still be obtained in this section. Public confidence, however, appears to be lacking and it may well be some time before it can be regained. At a meeting of Nanwa noteholders held on Tuesday an advance of £40,000 was asked for to keep the mine in operation until September. The labour situation is reported to be better and by the Autumn it is hoped the situation will be clearer.

Copper shares have again fluctuated owing to the doubts whether or not they will be subject to dividend limitation. It is generally thought that the Chancellor may well bring pressure to bear on the Government of Northern Rhodesia, with the object of including them within the net. Much, however, will depend on the exact legal position, and that is well nigh impossible to assess from the present wording of the draft.

There was a revival of interest in lead-zinc shares, Barriers being particularly favoured. Consolidated Murchison, the antimony mine, also attracted attention. The shares changed hands as high as 5-11/16 before reacting to 5½. Beralt Tin and Wolfram recorded a sharp recovery on further consideration of the tungsten situation.

Dollar stocks remained quietly firm. International Nickels were a feature. The shares improved $2 to $79 following the increase in the quarterly dividend on the common stock from 40c. to 50c. per share.

Oil shares have also been firmer following more encouraging news from Persia and a better technical position in the market. Shells and Trinidad Leaseholds were bought, the latter on reconsideration of the recently acquired interest in the Canadian Leduc Oilfield.

	Price Aug. 8	+ or − on week
FINANCE		
African & European	3/6	
Anglo American Corpn.	8½	−1/2
Anglo-French	22/6	
Anglo Transvaal Consol.	40/-	
Camp Bird	12/9	
Central Mining (£1 shrs.)	41/10½	−7½d
Consolidated Goldfields	2 5/8	
Consol. Mines Selection	33/1½	
East Rand Consols	4/1½	
General Mining	5⅝	
H.E. Prop.	36/3	
Henderson's Transvaal	9/-	
Johnnies	3½	
Rand Mines	6⅜	
Rand Selection	41/3	−7½d
Union Corporation	10	−½
Vereeniging Estates	6	−½
Writs	32/6	+1/-
West Wits	2⅜	−1/8
RAND GOLD		
Blyvoors	48/6	−3d
Brakpan	19/6	
City Deep	3 1/8	
Consol. Main Reef	2 1/8	
Crown	4 3/8	
Daggas	3⅜	
Dominion Reefs	1/9	
Doornfontein	28/9	−1/3
Durban Deep	3 11/16	
E. Daggas	24/4½	−1/3
E. Geduld ... (4/- units)	2⅛	−1/8
E. Rand Props	4 3/8	
Geduld	7¼	
Grootvlei	38/9	−7½d
Libanon	17/3	−3d
Luipaards Vlei	21/3	6d
Marievale	21/3	6d
Modderfontein B.	5/3	−6d
Modderfontein East	2 3/8	
New Kleinfontein	33/1½	
New Pioneer	24/4½	−7½d
Randfontein	18/9	−6d
Robinson Deep	14/6	
Rose Deep	37/6	−7½d
Simmer & Jack	6/6	−1½d
Springs	10/-	−1½d
Sub Nigel	3 1/8	−1/8
Van Dyk	16/-	−6d
Venterspost	30/-	−3d
Vlakfontein	19/-	−6d
Vogelstruisbult	26/9	
West Driefontein	6 3/8	−1/8
W. Rand Consolidated	41/10½	−1/10½
Western Reefs	41/3	−7½d
O.F.S.		
Alpha F.S.A.	13/6	−6d
Bilspoort	23/9	−7½d
Central Mining F.S.	5/-	−1½d
Freddies	12/3	−3d
Freddies N.	11/9	
Freddies S.	13/9	−1½d
F.S. Geduld	3 13/16	
Geoffries	27/6	−3/1
Harmony	25/6	6d
Lydenburg Estates	11/3	
Middle Wits	24/6	+3
Ofsits	2 1/16	
President Brand	22/6	
President Steyn	19/-	−6d
St. Helena	30/7½	
U.F.S.C. & G.	10/-	
Virginia Deb.	7/8	
Virginia Ord.	14/-	
Welkom	38/1½	−7½d
Western Holdings	3¼	−1/8
WEST AFRICAN GOLD		
Amalgamated Banket	2/1½	
Ariston	6/9	
Ashanti	26/1½	+1½d
Bibiani	9/1½	+1½d
Bremang	3/-	−1½d
G.C. Main Reef	3/4½	
G.C. Selection Trust	7 6/8	6d
Konongo	1/9	−1½d
Kwabu	3/9	
London & African Mng.	2/-	
Lyndhurst Deep	1/-	
Marlu	2/1½	
Nanwa	4½d	
Taquah & Abosso	6/7½	
AUSTRALIAN GOLD		
Boulder Perseverance	3/-	−3d
Gold Mines of Kalgoorlie	13/9	−9d
Great Boulder Prop.	6/-	−3d
Great Western Consol.	2/9	
Lake View and Star	20/3	−3d
Mount Morgan	19/4½	+4½d
North Kalgurli	17/9	−3d
Paringa	9d	
Sons of Gwalia	14/3	
South Kalgurli	10/-xd	−6d
Western Mining	7/4½	−1½d
Wiluna	11/9	
MISCELLANEOUS GOLD		
Cam and Motor	33/1½	
Champion Reef	10/4½	
Falcon Mines	10/10½	+4½d
Globe & Phoenix	23/-	
MISCELLANEOUS GOLD (contd)		
G.F. Rhodesian	8/4½	+4½d
London & Rhodesian	5/9	−1½d
Motapa	2/9	
Mysore	6/6	
New Guinea	1/7½	
Nundydroog	7/6	−6d
Ooregum	3/6	
Oroville	3/6	−3d
St. John d'El Rey	37/6	+2/6
Zams	32/6	+1/3
DIAMONDS		
Anglo American Inv.	4½	+⅛
Casts	35/6	+1/-
Cons. Diam. of S.W.A.	3 1/8	+⅛
De Beers Defd. Bearer	61/9	+2/6
De Beers Pfd. Bearer	16¼	
COPPER		
Chartered	70/9	+2/-
Indian Copper	4/-xd	−3d
Messina	5⅛	+⅛
Nchanga	7 5/8	+⅛
Rhod. Anglo-American	60/3	
Rhodesian Selection	18/1½xd	+1/-
Rhokana	21½	
Rio Tinto	20	−¼
Roan Antelope	10/3xd	−9d
Selection Trust	43/9	+1/-
Tanks	47/6	
Tharsis Sulphur Br.	53/9	+1/3
TIN (Eastern)		
Anglo-Burma	2/9	
Aver Hitam	28/3	6d
Bangrin	31/6	+4½d
Gopeng	13/1½	
Hongkong	10/-	−6d
Ipoh	28/1½	+7½d
Kamunting	12/-	−7½d
Kepong Dredging	12/6	
Kinta Tin Mines	15/-	−3d
Kramat Pulai	4/4½	+4½d
Malayan Dredging	22/6	−3d
Pahang	14/3	
Pengkalen	11/3	
Petaling	12/7½xd	−6d
Rambutan	17/6xd	+1½d
Siamese Tin	20/4½	
Southern Kinta	13/4½	
S. Malayan	29/1½	−7½d
S. Tronoh	24/3	
Sungei Kinta	18/9	
Tekka Taiping	8/9	+4½d
Tronoh	28/-	
TIN (Nigerian and Miscellaneous)		
Amalgamated Tin	10/4½xd	−4½d
Beralt Tin	20/6	+1/-
Bisichi	3/7½	+3d
British Tin Inv.	16/6	+1½d
Ex-Lands Nigeria	6/7½	
Geevor Tin	14/1½xd	−10½d
Gold & Base Metal	3/7½	
Juntar Nigeria	6/9	
Jos Tin Area	11/-	
Kaduna Prospectors	4/-	
Kaduna Syndicate	5/6	−3d
London Tin	5/-xd	
Ribon Valley	1/1½	+1½d
United Tin	2/4½	+1½d
SILVER, LEAD, ZINC		
Broken Hill South	55/-	−1/-
Burma Corporation	3/7½	+3d
Consol. Zinc	32/6	+1/9
Lake George	23/9	+2/3
Mining Trust	6/10½	+1½d
Mount Isa	45/9	−3d
New Broken Hill	27/3	+1/-
North Broken Hill	73/-	
Rhodesian Broken Hill	21/9	−3d
San Francisco Mines	31/6	−3d
Trepca	4/-	−1½d
MISCELLANEOUS BASE METALS & COAL		
Amal. Collieries of S.A.	61/3	−1/3
Associated Manganese	73/6	+1/-
Chinese Engineering	2/9	
C.P. Manganese	49/4½	−7½d
Natal Navigation	5⅛	−⅛
Wankie	21/6	+1/6
Witbank Colliery	4	
CANADIAN MINES		
Dome	$29	+1
Hudson Bay Mining	$115	+3
International Nickel	$79¼	+3¼
Mining Corpn. of Canada	£6⅞	
Noranda	$147	+5
Quemont	£8⅛	
OIL		
Anglo-Iranian	5 5/8	−1/2
Apex	48/9	+2/6
Attock	23/1½	+1/10½
Burmah	62/6	
Canadian Eagle Bearer	35/4½	+1/4½
Mexican Eagle	26/-	+3d
Shell*	4 5/8	+⅛
Trinidad Leasehold	28/9	+1/-
T.P.D.	39/4½	+1/10½
Ultramar	29/4½	−4½d

Rand and O.F.S. June Quarterlies

The Kaffir reports for the June quarter, with other information, enable a survey to be made of the conditions and working results of the Rand mines for the first half of the current year.

Although the President of the Chamber of Mines, in his speech, made a point that the industry was not in grave difficulties, as was the case prior to devaluation, he emphasized the basic problem of rising costs. But the quarterlies gave some reassuring indication regarding the unit cost factor. Several members of the "Corner House" group, for instance, showed that the uptrend during the three months was very slight. Crown Mines unit costs per ton showed only 1d. rise, as likewise those of East Rand Proprietary and Rose Deep, while those of Consolidated Main Reef were unaltered. Blyvoor's costs were 8d. down.

The average cost per ton milled, however, during the first six months of the current year, has risen to 31s. 3d. against 29s., and on this basis, they have swallowed up just over 50 per cent of the benefits directly accruing to the industry as a result of devaluation in September, 1949.

While the extra revenue from sales of gold at enhanced prices was higher in the case of most of the Gold Fields mines during the June quarter, it was lower with all those of Anglo American Corporation, as likewise with the Union Corporation members, while a lower trend also showed itself with most of the Central Mining producers.

For the first six months of the current year the estimated working profits of the mines amounted to £22,768,000, while premium sales brought in £3,867,871. For the first half of 1950 the Rand's working profits amounted to £26,760,000.

CENTRAL MINING RAND MINES GROUP

The outstanding feature of the Central Mining group June quarterlies was the high average development values of 616 in.-dwt. reported by East Rand Proprietary. It was a continuation of the good showing made by the mine during the first three months of the year. More development work was done and of the 3,920 ft. sampled, 66 per cent proved payable. In the March quarter, development gave an average of 374 in.-dwt., which in itself was a notable improvement on the 250 in.-dwt. average for the whole of 1950. There is little doubt that this improvement is traceable to the south-eastern section of the property and the Composite Reef in particular.

Slightly more development was done by Blyvoor (10,724 ft.) and payability of the 5,075 ft. sampled was 100 per cent, the in.-dwt. being 620 against 630 and 562 in the December quarter. A slightly increased footage of new ground was opened up by both City Deep and Crown Mines, and of the latter's 15,060 ft. sampled, 57 per cent proved payable (against 49 per cent), the value being 275 in.-dwt. The pay ratio of the 6,500 ft. sampled by City Deep fell to 30 per cent from 48 per cent in the March quarter, while the value was lower—307 in.-dwt. against 310. Consolidated Main Reef's development value was also lower—206 compared with 228 in.-dwt., though the pay ratio of the 8,110 ft. sampled was better—52 per cent. There was a drop in Durban Deep's pay ratio to 58 per cent (against 64) but a larger footage of work was done with increased sampling.

New Modder gave signs of its waning; only 916 ft. of ground was opened up and of the 720 ft. sampled, 28 per cent proved payable, value 124 in.-dwt. Previous quarter's pay ratio was 43 per cent. Rose Deep did more development but sampled less—6,060 ft., of which 32 per cent was payable, value 281 in.-dwt. Welgedacht sampled 1,145 ft., giving 35 per cent payability of 163 in.-dwt.

ANGLO AMERICAN CORPORATION

Apart from two results on the Kimberley Reef, the operating companies of Anglo American drove a greater development footage in the June quarter than in that of March.

Payability of Springs Mines on the Main Reef Leader was slightly up (39 against 37 per cent) but the value was down and both value and pay ratio were lower on the Kimberley Reef (9 against 14 per cent) with in.-dwt. of 262 compared with 270. More development was done by Brakpan and of the 14,960 ft. sampled, 27 per cent proved payable, value 497 in.-dwt.

Daggafontein's operations in June were adversely affected by underground fire but the quarterly results did not betray its effect. More development was done on both the Main and Kimberley Reefs and of the 4,360 ft. sampled on the former, 42 per cent was payable, value 286 in.-dwt. 7,570 ft. were sampled on the Kimberley Reef, of which 44 per cent was payable, the value being similar to that of the previous month, 354 in.-dwt. East "Dagga" opened up both the Main and Kimberley reefs and of the 6,215 ft. sampled on the former, 39 per cent was payable of 264 in.-dwt. Of the 4,215 ft. sampled on the Kimberley, 37 per cent proved payable, giving 360 in.-dwt.

New ground broken into by South African Lands was rather more than in the previous quarter, while 42 per cent (against 43) of the 14,345 ft. sampled gave 401 in-dwt. The June quarterly of Western Reefs was similar to that of the previous three months. Reef sampled was more, 11,340 ft. and gave 49 per cent payability of 457 in.-dwt. The company reported that prospecting work was being carried out on a portion of farm Goedgenoeg 62 from a haulage on the 26th level.

During the June quarter Vaal Reefs No. 3 Vertical shaft was sunk to a depth of 4,018 ft., while the sub-vertical attained a depth of 1,389 ft. below underground hoist chamber level.

CONSOLIDATED GOLD FIELDS

Interest in the June quarterlies of the Gold Fields mines was particularly focused on West "Dries" and Doornfontein. On the former, development continued on the Carbon Leader and 715 ft. were sampled, all of which (100 per cent) proved payable averaging 11.3 dwt. over an estimated stoping width of 45 in. or 509 in.-dwt. This compared with 545 in.-dwt. in the March quarter when the whole of 375 ft. sampled proved payable. Work is now progressing on the 10th, 11th and 12th levels from No. 2 shaft. Doornfontein's report stated that the cross-cut on 5th level was advanced to the Carbon Leader zone and of the 380 ft. sampled, payability was 84.2 per cent, value being 16 dwt. over 45 in. or 720 in.-dwt. Work is now being concentrated on sinking the Annan shaft to its final depth.

A larger footage was accomplished by Libanon and of the 5,570 ft. sampled, 59 per cent proved payable giving 307 in.-dwt. There was also sampled 685 ft. on the Contact reef, of which 44 per cent was payable, averaging 413 in.-dwt. The remaining Far Western mine of the group, Venterspost, did more development and of the 4,830 ft. sampled, 73 per cent was payable, value being 354 in.-dwt.

The older producers—Robinson Deep and Simmer & Jack both did more work. The former's pay ratio rose to 60 per cent against 48 in March three months, value being 308 in.-dwt. Luipaards Vlei did 15,716 ft. of development and of the 8,980 ft. sampled, 60 per cent proved payable to 280 in.-dwt.

Among the group's Far Eastern mines Vlakfontein announced that the new No. 2 shaft was 49 ft. deep at

end of last quarter but full-scale sinking operations will not be possible until early in 1952 owing to delay in delivery of headgear. Sub Nigel sampled 10,320 ft. for similar pay ratio as in previous quarter, 36 per cent, while the value was 430 in.-dwt. Of "Vogels" 9,885 ft. sampled, 49 per cent was payable, value 254 in.-dwt.

UNION CORPORATION

Prominent amongst the Union Corporation's members was Van Dyk. In the new No. 5 shaft area on the southern portion of the property being opened up, only 15 of the 965 ft. sampled showed payable reef disclosures of an average value of 5.4 dwt. over 29 in. or 157 in.-dwt.

Although Grootvlei sampled 10,890 ft. compared with 12,375 ft., payability was 50 per cent compared with 49, but there was a rapid diminution in value, the in.-dwt. figure being 201 against 268 in the March three months. Development footage on the Main Reef of Marievale was 6,125 and that sampled 3,365 ft., of which 52 per cent was payable. Work was also accomplished on the Kimberley Reef and of the 1,650 ft. sampled, 39 per cent was payable of 241 in.-dwt.

Geduld's percentage payability was only 9 against 12 in the previous quarter, and the in.-dwt. of 153 compared with 205. Rather less footage, 4,201 was done and the reef sampled was 3,295 ft. The decline followed on a similar experience in the March quarter. The value for the December three months was 241 in.-dwt. A good showing was made by East Geduld. Nearly double the amount of development was done, 3,367, and of the 2,365 ft. sampled, 52 per cent proved payable compared with 50 per cent previously when only 895 ft. were sampled. But some of the advantage was offset by a sharp drop in the in.-dwt. value which was only 153 against 221 in the March quarter. The company also did 550 ft. on work on the Kimberley Reef but none of this footage was sampled.

JOHNNIES GROUP

The producers under the aegis of Johannesburg Consolidated again gave continued evidence in the June quarter of the benefits being derived from premium gold. In the case of Randfontein and Champ d'Or, it was rather less than in the March three months while, so far as New State Areas and Wit Gold are concerned, its effect was to transform a nominal quarterly working profit into several thousands for the three months. New State's working profit was only £549 but the premium accounted for an additional £16,334. That of Wit. Gold was £727, while the amount obtained for gold sold at higher than standard price was £15,447. Developments on both mines, as is commonly known, have tapered to reclamation work which is yielding worth-while results. New State Areas sampled 1,050 ft. last quarter giving 77 per cent payability, value 275 in.-dwt., while Wit Gold sampled 1,230 ft. with 24 per cent payability and an in.-dwt. figure of 222.

A larger footage was sampled by East Champ d'Or—1,235 against 820 but payability dropped to 59 per cent against 77, value 195 in.-dwt. Government Areas pay ratio was well up and of the 12,260 ft. sampled, 62 per cent (against 46) was payable giving 254 in.-dwt.

There was not a big change in Randfontein's results. Footage sampled of 11,030 (compared with 12,110 ft.) gave a pay percentage of 35 and a value of 239 in.-dwt. Profit for the quarter of £123,894 was about £20,000 less than in the March three months, while premium gold brought in £82,764 against £83,748 the previous quarter.

GENERAL MINING—ANGLO TRANSVAAL

The total footage of development done on West Rand Consolidated was in advance of that of the first quarter and of the 10,025 ft. sampled, payability was 52.72 per cent compared with 61 previously, but the value was higher, 285 in.-dwt. The other producer of the General Mining group—South Roodepoort sampled 3,030 ft., with 55 per cent payability, which was similar to that of the March quarter but the value was higher, 279 in.-dwt. against 240.

More development was done on the Main Reef series by Rand Leases (Anglo Transvaal) and of the 8,150 ft. sampled, 70 per cent was payable against 80 per cent the previous quarter, but the value was the same—255 in.-dwt. A fair amount of work was done on the other reefs of the mine and of the 690 ft. sampled on the Bird Reef, 52 per cent was payable, value 166 in.-dwt.

During June quarter, Stilfontein (Strathmore Management) did 5,880 ft. of development on the Vaal reef horizon at the Charles shaft. Of this, 2,000 ft. were on reef and sampled giving 100 per cent payability; the value averaged 45.5 dwt. over 6.9 in., equal to 314 in.-dwt.

FREE STATE MINES' PROGRESS

The feature of the June quarterly of the O.F.S. mines under the aegis of Anglo American was a high-value borehole announcement by President Steyn. For the purpose of planning underground development, a borehole, KP.9, was drilled 3,500 ft. south-west of No. 2 shaft on farm Klippan 403. The Basal reef was cut at 4,450 ft. assaying 40.1 dwt. gold over a true width of 22.6 in., equal to 906 in.-dwt. This is the best value encountered and is the third drill in the immediate vicinity to give good values. On President Brand, No. 1 shaft was sunk to a depth of 2,557 ft. but sinking was delayed by intersection of friable ground. No. 2 shaft was sunk to 1,924 ft.

Western Holdings No. 1 shaft was sunk to a depth of 3,682 ft.; No. 2, to 3,771 ft. The leader reefer was penetrated at 3,944 ft. in borehole No. 2 on farm Mijannie 166, giving 2.86 dwt. over 89.2 in.—255 in.-dwt. On Free State Geduld, No. 1 shaft was sunk to 3,518 ft. and No. 2 shaft to 4,260 ft.

During the June quarter sinking was started of No. 2 shaft on Loraine Gold. The No. 1 shaft was sunk to a depth of 1,427 ft.

Development results at Welkom were satisfactory. 22,362 ft. of work was done and 6,255 ft. sampled giving 53 per cent payability, value 342 in.-dwt.

Features of St. Helena (under technical control of Union Corporation) quarterly statement were the big increase in development footage but low Basal Reef payability. It was stated that milling of development rock from surface dumps commenced in June. Of the 10,066 ft. of development (against 4,545 ft.), 2,330 ft. were sampled giving a pay percentage of 23 and having an average assay value of 19.4 dwt. over 21 in.

Of the "Johnnies" O.F.S. members, Free State Development reported the result of boreholes on some five farms. During the quarter, Freddies North No. 1 shaft was sunk to a depth of 5,025 ft.; shaft No. 2 to 3,939 ft. The No. 1 shaft of Freddies South was sunk to 4,248 ft. and No. 2 to 4,415 ft.

No new borehole results of significance were announced in the Middle Wits quarterly report. Of the other companies in the Anglo Transvaal group, No. 1 Vertical shaft of Virginia was sunk to a depth of 2,621 ft., No. 2 to 2,460 ft. and No. 3 reached a depth of 1,557 ft. Surface work progressed well. On Merriespruit, the No. 1 shaft was sunk to 1,473 ft. but no sinking was done on No. 2 shaft; the depth remaining at 97 ft.

Central Mining reported that the ventilation shaft on Harmony was sunk during the June quarter to a depth of 1,829 ft. and the No. 3 shaft to 1,360 ft.

Company News & Views

Dividend Limitation and Restriction of Output

The continued uncertainty regarding the position of those mining companies which carry on their operations abroad, although they are technically registered in this country, and therefore fall within the scope of the Government's recent White Paper on dividend limitation, has raised questions of far greater import than merely their liability to dividend limitations. A large proportion of this country's total imports come from these companies which have been encouraged to increase their production to meet the heavy demands of the rearmament programme and also, especially in the case of the Malayan tin producers, to earn valuable dollars.

The question still remains to be answered how the Government proposes to reconcile its exhortations for higher production with its White Paper proposals which heavily penalizes risk capital and reduces the rewards for enterprise. Already several important mining companies have transferred their seats of control abroad to escape the onerous burden of taxation in this country, and the proposal to subject these companies to dividend limitation may quickly redound to this country's disadvantage.

For example, the schemes now under way to increase copper production in Northern Rhodesia require fresh funds, but will these be forthcoming if the return on capital invested is to be reduced to the point where it bears little relation to the risk involved? Or will these companies prefer to build up their stocks of ore and supply the markets with only the tonnage necessary to meet expenses and pay the permissible dividend?

In view of the effect on the economy of this country which a lower output of vital raw materials would have, will the Government be prepared to exempt as special cases those companies engaged in the production of primary materials overseas? Certainly there is a strong case for this line of action being followed, but then little justification would remain for the Government to apply its White Paper proposals to companies operating in the U.K.

When it is considered that taxation has already reduced incentives to produce to a dangerously low level the latest proposals will surely sap the confidence of those who would otherwise supply the capital funds of companies which, in the aggregate, provide this country with primary materials essential not only to its well-being, but to its position as a great power.

Tekka-Taiping's Disappointing Year

Year to Oct. 31	*Dredge Treated*	*Output*	*Yield per cu. yd.*	*Cost per cu. yd.*	*Price per ton tin ore*	*Production Costs*
	(cu. yd.)	*(tons)*	*(lb.)*	*(pence)*	£ s. d.	£ s. d.
1949	2,117,700	430	0.45	7.91	343 19 7	162 10 1
1950	1,900,800	200	0.24	9.09	405 8 11	359 19 11

The low-grade ground through which Tekka-Taiping's dredge worked during the year to October 31, 1950, affected very adversely the whole of the company's operations. Output declined sharply from 430 tons to 200 tons, costs rose much more steeply than did the rise in the price received per ton tin ore, with the net result that the company was forced to retire from the dividend list and to be content with a slightly higher forward balance.

Year to Oct. 31	*Tin Proceeds*	*Mining Revenue*	*Mining Costs**	*Tax*	*Net Profit*	*Forward Balance*
	£	£	£	£	£	£
1949	174,364	175,476	96,377	45,081	35,345	31,226
1950	95,999	96,454	86,907	9,176	4,083	33,067

*Including Government royalty, provision for dredge bucket band renewal, smelters' charges, etc.

However, a better, though somewhat uncertain, picture emerges when viewing current operations. Better because production during the first nine months totalled 174 tons, equivalent to an annual rate of about 235 tons, which should have fetched a much higher price than that received per ton during the year under review. This would appear to have been the case, as two interim dividends each of 2½ per cent, have already been paid. An element of uncertainty remains because bores put down ahead of the dredge indicate, according to the general manager's report "that while the average rate of output may be expected to improve during the current year, values will continue to be very variable."

Further, as Mr. Stanley Wickett, chairman, points out, the sharp fall in the price of tin during the last few months must seriously affect the position of high cost producers in Malaya and elsewhere.

Company Shorts

Northern Rhodesia Co.'s Windfall.—During the year to May 31, 1951, the Northern Rhodesia Co. achieved the difficult feat of convincing the Revenue Authorities that the existing basis on which they were assessed for tax was not a proper one. The direct result of the subsequent alteration was that whereas the year's profit of £16,328 (£6,201) would have been, on the former basis, subject to a taxation charge of about £8,000, it did in fact work out at £3,976, thereby giving a theoretical non-recurring benefit of over £4,000. Thus with net profits of £12,352, the dividend has been maintained at 5 per cent, but a bonus payment of 5 per cent has been added, the aggregate distribution absorbing a total net amount of £5,250. General reserve was strengthened by the receipt of £6,500 (£2,500) and the carry forward was left higher at £4,020 against £3,418.

Naraguta Tin Pays 7½ per cent.—A preliminary announcement of Naraguta Tin Mines giving the results for the calendar year 1950 reveals that the company has recommended the payment of 7½ per cent for the year, against nil previously. The group profit was £76,327 compared with £4,052, of which £67,912 (£2,241) is attributable to members of the holding company. Estimated tax, including Colonial tax, was £49,371 (£3,811) and after transferring £5,906 (£6,604) to reserves, the forward balance was higher at £26,184 against £22,212.

The accounts of the holding company disclose a profit, after charging depreciation, of £41,911 (£1,384). Expenditure on prospecting of mining leases amounted to £9,196 (£10,340) and revenue included a gross dividend of £3,000 (£5,000) from the company's wholly owned subsidiary.

The annual meeting will be held at Winchester House on September 5. Mr. H. T. Skipp is chairman.

Geevor Tin Defies Freeze.—Geevor Tin is proposing to pay a final dividend of 35 per cent, making with the interim dividend, a total of 50 per cent for the year ended March 31 last. This distribution compares with 20 per cent paid previously and aroused a good deal of interest last week, as the maximum distribution permissible for the company under the controlled dividend proposals works out at only 17½ per cent. However, the increased payment is well covered and profit, before taxation, expanded to £246,906 compared with £68,375 in the previous year. The company was called upon to bear a much heavier taxation, £147,255 against £37,952. General reserve was substantially strengthened by the addition of £64,396 against £8,988 and after taking into account the appropriation required to meet the year's distribution which amounted to £27,477 (£11,352), the balance carried forward was £217 higher at £9,720.

Amalgamated Tin of Nigeria Pay 30 per cent.—The directors of Amalgamated Tin Mines of Nigeria announce that the audited accounts have not yet been received from Nigeria and it is not anticipated that the annual meeting will be held earlier than last year.

They estimate that the profit for the year to March 31, after providing taxation, will be £620,000 (£280,455). It is proposed to transfer to reserves, £288,000 (£40,000) comprising £25,000 for contingencies, £150,000 (being approximately 40 per cent of the estimated cost) for the new earth moving equipment, and £113,000 for equalization of royalty.

The net profit available for the previous dividends and the dividend now declared will be in the neighbourhood of £330,000.

The directors have accordingly declared a third interim dividend of 14 per cent, less tax, payable August 24, making 30 per cent for the year against 20 per cent previously. It will not be their intention to recommend a final dividend when the accounts are issued.

Vereeniging Estates—Capital Requirements and Issue of Shares.—Some three years ago Amalgamated Collieries of South Africa embarked on a large expansion scheme estimated to cost £2,250,000. Funds were to be provided partly out of proceeds of a share issue and partly by loan facilities granted by African and European Investment Co. up to an amount of £900,000. In consideration for such loan facilities African and European Investment were granted an option to subscribe for 330,000 shares during the period January 1, 1953 and March 31, 1953, at an issue price of 35s. per share.

Meanwhile Amalgamated Collieries' subsidiary, Largo Colliery, which supplies the bulk of the coal required by the Rand power stations of ESCOM, was becoming exhausted and arrangements for a new pit to be sunk were decided upon. Subsequently a new company, New Largo Colliery, was formed to exploit coal deposits discovered on ground to be leased from Witbank Coal Holdings in the Kendal area of the Transvaal where the deposits have been estimated to contain some 80,000,000 sales tons of extractable medium grade coal. To finance New Largo Colliery, Amalgamated Collieries of South Africa and European Investment Co. will each subscribe £425,000 to equip the new property, on which work has already started and where it is hoped the production stage will be reached before the end of next year.

Ordinarily, to finance its part of the venture, Amalgamated Collieries would increase its capital but owing to the agreement with African and European Investment under which the latter company has options to take up shares between January 1, 1953, and March 31, 1953, any increase in Amalgamated Collieries' capital prior to the exercise date of the option would prejudice African and European Investment Co.'s shares under option as they would not rank for participation in a *pro rata* issue to shareholders.

Accordingly, Vereeniging Estates, which directly controls Amalgamated Collieries of South Africa, has assumed the obligations of African and European Investment Co. to take up the 330,000 shares ot 55s. per share, to enable repayment of the loan from European and Investment Co., and to provide further funds on loan to Amalgamated Collieries at 5 per cent, as and when required, up to an amount of £650,000. In return for this concession, African and European Investment Co. has been granted the right to take up 150,000 shares in Vereeniging Estates at a price of £5 per share. Additionally, Vereeniging Estates have recently acquired the entire share capital (£250,000 shares of £1 each) of the Transvaal Coal Corporation, amounting to 16,427 fully paid 10s. shares in African Metals Corporation, 21,747 fully paid £1 shares in Vanderbijl Engineering Corporation and 48,766 shares in its own subsidiary, Vereeniging Brick and Tile Co. All of these acquisitions have been procured from Anglo American Corporation of South Africa in exchange for 100,000 shares fully paid in Vereeniging Estates, of which approximately 85 per cent are in respect of the Transvaal Coal Corporation. Furthermore, Vereeniging Estates require funds for maintaining its investments in its subsidiary and also for the purpose of developing its township sites.

Thus Vereeniging Estates' capital requirements total £1,881,500, which can be conveniently broken down as follows:

330,000 shares (5s.) in Amal. Collieries of S.A.	£907,500
Loan facilities to Amal. Collieries of S.A.....	650,000
Township development.....	74,000
Vereeniging Brick and Tile.....	250,000
Total funds required.....	£1,881,500

To raise the additional capital Vereeniging Estates is calling an extraordinary meeting of stockholders in Johannesburg on August 27 next to consider increasing the company's capital from £2,500,000 in shares of £1 each (of which £2,250,000 has been issued), to £3,000,000 by the creation of 500,000 new shares of £1 each, ranking *parri passu* in every respect with the existing shares and, to authorize its Board to issue the newly created shares on such terms and conditions as they see fit.

Of the 250,000 shares of £1 each in reserve, 100,000 shares have been issued to Anglo American Corporation to effect the exchange of shares mentioned above and for the acquisition of the Transvaal Coal Corporation. The remainder of the reserve shares, namely 150,000, have been subscribed by African and European Investment at £5 per share providing £750,000 and leaving an amount of £1,131,500 still to be found.

Of the newly created shares it is proposed to issue 250,000 shares to stockholders at £5 per share in the ratio of 1 new for every 10 held on August 31 next (fractions being ignored). This offer will be underwritten by Anglo American for a cash consideration of 2½ per cent and the proceeds, after underwriting expenses, will amount to £1,218,750 which, after meeting the company's commitments, will leave a balance for future contingencies of £87,250 and 250,000 shares of £1 each in reserve.

Topical News in Brief

Australia's Output of Major Metals in 1950.—The Australian Mines and Metals Association has announced the following production figures for the major metals in 1950: Lead output was 219,176 tons, the highest since 1942, when production was 263,183 tons; in 1949 output was 213,419 tons. Zinc output was 202,384 tons, compared with 181,998 tons in 1949, and 221,834 tons in 1942. Silver also showed an increase over the 1949 figures, in which year output was 9,849,213 f.oz.; production for 1950 was 10,667,456 f.oz., which compares with the peak year, 1942, when the figure was 14,241,811 f.oz. Copper output in 1950 was 14,905 tons, the highest figure since 1946, when 17,775 tons were produced. Tin continues on the downgrade, the 1950 production of 1,850 tons being 123 tons less than in 1949.

U.K. Ferrous Scrap Down: Sulphur Stocks Up.—According to the current issue of the *Monthly Statistical Digest*, pig-iron stocks at steel works and blast furnaces were 185,000 tons, 32,000 tons less than a month before and comparing with 606,000 tons at the end of August, 1950. Stocks of steel scrap at steel works and foundries fell during June by 21,000 tons to 328,000 tons. At the end of August, 1950, scrap stocks totalled 904,000 tons.

Contrary to the trend of scrap, stocks of sulphur and sulphur-bearing materials have been increasing in recent months. At the end of May, stocks of pyrites reached the record high level of 89,700 tons, a rise of 2,200 tons on the month and 19,500 tons higher than at the beginning of the year. Sulphur stocks for sulphuric acid increased by 17,100 tons on the month to 95,900 tons, the highest level for almost a year and 31,000 more than at the end of January. Stocks of regular sulphur were unchanged on the month at 17,200 tons, an increase of 11,500 tons since the end of 1950.

S. Rhodesian Iron Pyrites Output to be Expanded.—An expansion of the output of iron pyrites from the Iron Duke Mine in the Mazoe Valley near Salisbury, with the possibility of developing an export trade with South Africa, is foreshadowed in the statement by the chairman (Sir Ernest Oppenheimer) which has been circulated with the annual report and accounts of the Rhodesia Broken Hill Development Co. Ltd. "As a result of the serious world shortage of sulphur, Sir Ernest Oppenheimer states, "consideration is at present being given to extending the activities of the Iron Duke Mine with a view to supplying pyrites, hitherto used only in the company's own works and on the Copperbelt, to large-scale users in the Union of South Africa." Nearly half a million tons of iron pyrites, currently valued at 20s. a ton, have been produced in Southern Rhodesia since mining operations began.

G.E.C. Installs First Coal Preparation Plant in India.—The General Electric Co. of India Ltd. has recently commissioned at West Bokaro Colliery, Bihar, the first coal cleaning plant to be installed in India. The plant operates on the Chance Sand Flotation Process, which has already become well established in the U.S.A., South Africa and this country and is giving excellent results with coal which is difficult to clean. This installation is of particular importance to India because her reserves of good class coking coal were rapidly diminishing and the remaining reserves were unsuitable for the blast furnaces at Jamshedpur without being upgraded.

The coal, which is extremely difficult to wash efficiently, is separated at two specific gravities, producing a low ash content coking coal, a medium ash content boiler fuel and a high ash content refuse which is disposed at the mine. It is of interest to add that a second plant ordered by The Tata Iron & Steel Co. for their Jamadoba Colliery is nearing completion and that the clean coal from this plant will also be consumed at their Jamshedpur Steel Works.

Oil in British Columbia?—Speaking lately in Victoria, the Hon. E. T. Kenney, Minister of Lands, expressed the opinion that B.C. was on the fringe of an oil era. He said that he had "unbounded confidence" that Canada's west coast province would provide oil reserves no less rich than those of Alberta. The Minister went on to point out that B.C. was just at the beginning of exploration, whereas Alberta had behind her thirty years of effort. Following Mr. Kenney, Dr. T. B. Williams, the provincial petroleum and natural gas controller, emphasized that the Alberta section of the Peace River country had already been proved, and that no fewer than twenty-two major oil companies were now interesting themselves in the B.C. section where some 12,000,000 cu. ft. of natural gas had already been struck.

German Expert to Examine Madras Lignite Deposits.—A German expert is to examine the possibilities of exploiting the lignite deposits in South Arcot district, Madras. Recently, a firm of German experts reported to the Madras Government that these deposits are the best in the world.

New Hydroelectric Plants for Sweden.—The Swedish Waterfalls Board has announced that it is to ask for a state allocation to build two new power stations on the Indal River next year and to install a third generating unit at the Midskogs hydoelectric station. The combined output of the three new units will be 575,000,000 kWh p.a.

Northern Rhodesia Mineral Production, May.—During May, Northern Rhodesia produced the following minerals: cobalt alloy (38.13 per cent Co), 3,731 cwt.; copper (blister), 18,284 tons; copper (electrolytic), 9,508 tons; lead, 1,200 tons; manganese ore (46.6 per cent Mn), 54 tons; tin concentrates (70 per cent Sn), 0.17 ton; vanadium pentoxide, 14.24 tons; zinc, 1,855 tons; limestone, 14.544 tons; mica (sheet), 948 lb.

Austria's Iron Ore Output To Be Stepped Up With E.C.A. Help.—The output target for the Erzberg, Styria (British Zone) opencast iron-ore mine has been raised from 5,500 tons to 7,400 tons daily in connection with the scheme to increase home output of scarce metals and minerals. To reach the higher target, new installations at an estimated cost of $2,326,000 will be needed, $635,000 of which are to be provided by the E.C.A. Mission in Austria for the purchase of American machinery.

New Zealand Hydro-Electric Contract for U.K. Firms.—Mr. S. Goosman, New Zealand Minister of Works has just announced, according to Reuter, that the New Zealand Government will award a contract for the design and supervision of construction of two hydro-electric power stations on the Waikato River to Sir Alexander Gibb and Partners of London. Associated with them in the mechanical and electrical side of work would be the British company of consulting engineers, Messrs. Merz and McLellan.

Southern Rhodesia Mineral Production for May.—During May, Southern Rhodesia produced the following minerals: Gold, 39,328.02 f.oz.; silver, 6,569.93 f.oz.; coal, 211,379 tons; arsenic, 12.5 tons; asbestos, 7,021.84 tons; chrome ore, 17,867.87 tons; fireclay, 100 tons; iron ore, 2,320 tons; iron pyrites, 2,934 tons; kaolin, 1,187.5 tons; beryllium ore, 126.47 tons; limestone, 23,348 tons; magnesite, 1,742 tons; mica (block), 7 tons 426 lb.; bismuth, 0.05 tons; lithium, 200 tons; quartzite, 10.83 tons; tin concentrates, 6.67 tons; tungsten concentrates, 2.25 tons; vermicultie, 132 tons.

India and Germany Join I.M.C. Sulphur Committee.—With the acceptance of invitations to membership by India and the Federal Republic of Germany, the Sulphur Committee of the International Materials Conference now has 13 members. Mr. H. A. Sujan, director of the India Supply Mission in Washington will represent India on the Committee, but no German representative has yet been nominated. Both countries were previously members of the committees on cotton and cotton linters and manganese-nickel-cobalt. Additionally, Germany belongs to the committees on copper-zinc-lead, tungsten-molybdenum, wool and paper. Twenty-seven nations are represented on one or more of the committees of the Conference which has been meeting in Washington for several months to work out ways to increase the production of strategic materials in short supply, and to guarantee their equitable distribution.

Uranium Prospecting in Alaska.—In an effort to aid uranium prospectors in Alaska, the U.S. Geological Survey has opened a laboratory in the Fairbanks, Alaska, area to which samples of interest can be sent or taken for examination. Several field parties of the Geological Survey will also be in Alaska this summer making reconnaissance studies in a joint Geological Survey-United States Atomic Energy Commission programme to determine possibilities for the occurrence of high-grade uranium ores in the Territory.

The laboratory established near Fairbanks will determine the radioactivity of such samples as are brought to its attention, free of charge. If uranium is present in significant quantities, the nature of the uranium minerals will be determined. The Geological Survey will make field investiagtions of promising uranium prospects if requested.

U.S.A. to Export 1,700,000 lb. of Molybdenum in Third Quarter, 1951.—The Office of International Trade, U.S. Department of Commerce, has established a total quota of 1,700,000 lb. of contained molybdenum for export during the third quarter of 1951. Of the total amount, 1,500,000 lb. may be exported in the form of molybdenum ores and concentrates; molybdenum oxide briquettes, trioxide, trioxide briquettes and molybdic acid and ammonium molybdate. The balance of 200,000 lb. will consist of ferromolybdenum; molybdenum metal, alloys, scrap, molybdenum wire, and molybdenum filaments. This quota is approximately 17 per cent larger than that established for the second quarter, but is 3 per cent lower than average quarterly molybdenum exports in 1950. The 1,500,000 lb. total, consisting of more than 99 per cent ores and concentrates, corresponds almost exactly with the schedule of proposed third-quarter U.S.A. molybdenum exports, issued on July 8 by the Tungsten-Molybdenum Committee of the International Materials Conference.

SOUTH CROFTY LTD.

The Forty-Fifth Annual General Meeting of South Crofty Ltd. was held at South Crofty Mine, Pool,- Redruth, on July 31.

Mr. Harry Rich, Chairman, who presided, in moving the adoption of the report, referred to the price of tin, the outlook for which seemed to be bettering. The U.S.A. was openly giving a higher price for Bolivian tin because of high cost of production. Those who estimated production and consumption had proved inaccurate, and their fears of a "burdensome surplus," estimated at 45,000 tons last year and 55,000 tons this year, had been falsified by events in 1950. It would appear that, during the current year, consumption was likely to exceed production, demand for tin plate proving that there would continue to be a world shortage after all known production plans were in operation. At Castle-an-Dinas, although the price of wolfram had somewhat fallen, it was still standing at a high figure, and returns during the current year had more than met expenditure. Testing by diamond drilling had been commenced, and so far had been encouraging, particularly north of the South shaft. This testing was being continued. At South Crofty, they were making small returns of wolfram from their complex lode on the bottom level, which their manager was following up with great interest. Negotiations had been completed for the disposal of the goodwill, plant and equipment at Bartle's, following the sale of the freehold site and buildings to Holman Bros. Ltd. The purchaser of the good-will, plant and equipment was British Insulated Callender's Cables Ltd. As a result of this sale he anticipated that South Crofty would secure sufficient cash to finance the new pumping installation, without recourse to the bankers. As far as he could judge all three parties concerned should be well satisfied. After persistent efforts it seemed as if South Crofty had reasonable prospects of securing Italian miners, through the Ministry of Labour, subject to certain conditions, which they could satisfy. He desired to thank the Cornish Mining Development Association and its officials for the assistance received. After considering the question fully, the Board had decided to declare an interim dividend of 5 per cent, payable on August 22.

The report was adopted.

An Extraordinary General Meeting was subsequently held at which new articles of association, in place of the existing articles, were approved. Numbered shares of 5s. each were forthwith to be treated as unnumbered.

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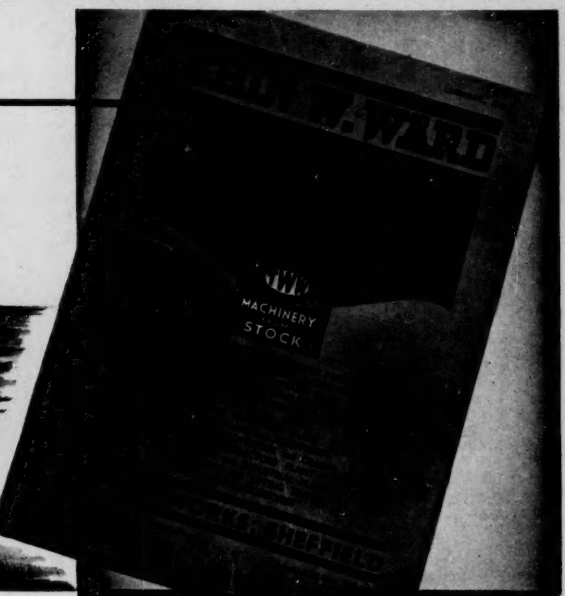

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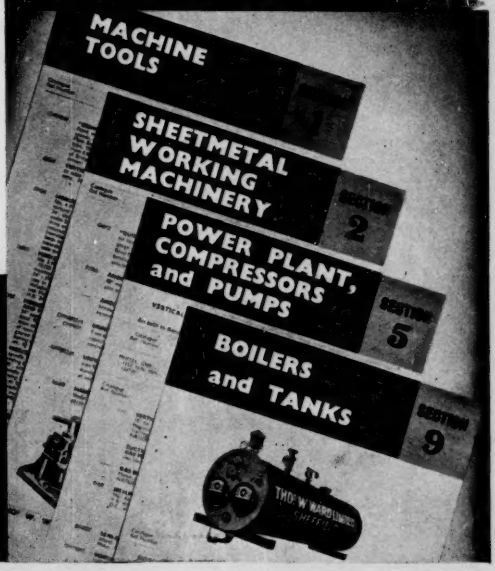

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